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ABSTRACT

As part of a project to provide techniques for developing and implementing realistic vocational training and placement programs for prisoner rehabilitation, an Automotive Trades Council (ATC) was established to test the concept of using a citizens' council to function as a bridge between correctional and training personnel and the using society. The ATC was then utilized to support the formulation and implementation of an automotive maintenance training program. The first section of this report presents the results of the first year of ATC operation in relation to the successes and failures encountered during the organization, functioning, and administration of the council. Suggestions for minimizing problems and a proposed organizational structure for future ATC operation are included. The second section describes the tasks completed in the process of designing the curriculum: labor market analysis (in the Chicago area), assessment of client needs and services, task analysis for the auto mechanic's job at various skill levels, and assessment of existing training services. The curriculum is then described along with the functions which the ATC, the instructional staffs of the Illinois prisons, and outside contractors will need to perform to develop and implement it. Topics in this section include selection, vocational training component, possible module format, management of the vocational component, employability skills component, basic education component, interface of basic and vocational components, and placement. Appendixes contain survey instruments and task lists for jobs of mechanic's helper, apprentice mechanic, and automotive specialist, plus sample knowledge objectives for the job of apprentice mechanic. (HD)

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Development of a Systematic Automotive Education Program

Final Report

Peter B. Wylie
Donald F. Haggard
Dorothy C. Herbert
James H. Harris

U.S. DEPARTMENT OF HEALTH
EDUCATION & WELFARE
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BACKGROUND

In the past two decades, Corrections has experienced a renewed emphasis upon the relationship between work and socialization in the management and treatment of legal offenders. Increasing numbers of correctional programs and personnel have been devoted to developing resources and services to reduce the social isolation of incarcerated offenders, facilitating social reintegration of released offenders, and giving offenders new, realistic, but non-criminal access to the world of work and to the opportunity structures of society (1). Penologists in the United States today are generally agreed that the prison serves most effectively for the protection of society against crime when its major emphasis is on rehabilitation (2).

Corrections consist of scores of different kinds of institutions and programs of the utmost diversity in approach, facilities and quality. On any given day it is responsible for approximately 1.3 million offenders. In the course of a year it handles nearly 2.5 million admissions, and spends over a billion dollars doing so. If it could restore all or even most of these people to the community as responsible citizens, America's crime rate would drop significantly. Despite the considerable variations among jurisdictions, roughly a third of the offenders released from prison will be reimprisoned within a five-year period. It would seem, then, that for many offenders, corrections does not correct. Indeed, corrections experts are more and more coming to feel that the methods and conditions for handling offenders are in many institutions an actual detriment to rehabilitation (3). Few released offenders are equipped to compete successfully

in today's labor market. Their previous employment record is spotty -- a history of short-term jobs interspersed with frequent periods of unemployment. Most of their work has been low skilled and low paid, and competition for even these jobs is increasing. Technological advances, changes in the occupational structure, and fluctuations in the economy also reduce the number of these jobs. In addition, educational and training requirements are increasing for many entry-level jobs. It becomes, then, increasingly clear that rehabilitation programs for offenders should be closely tied to the vocational, social and cultural needs of the free community. Attention should be focused on programs which begin working with individual offenders on the transitional process early in the correctional cycle and follow through until they have been fully reintegrated into the community.

Dr. Daniel Glaser, in his study and evaluation of American correctional programs (4), indicates that inmates interviewed considered vocational education and trade training to be their first interest while incarcerated. Inmates see vocational training as the only rehabilitative or constructive activity the institution has to offer. It has been observed that many inmates placed in training and work programs which interest them rapidly develop work skills, gain self-respect, and gradually begin to think more of a future at that occupation than of a return to criminal behavior. According to Glaser, a major factor in the rehabilitation of offenders is "the opportunity for application of skills developed from institutional training in post-release employment."

Unfortunately, vocational training in correctional institutions has largely reflected requirements of the institution rather than of the offender or of the labor market in the outside community (5). To be effective, training should be provided for an occupation in which critical labor market shortages exist so that trainees would be valuable to employers. The entry level qualifications for the occupational training selected should not be greater than could be provided in the time and facilities available in jail, and the training area selected must lead to a field of work with a viable future (6).

In 1964 the Department of Labor began exploring inmate needs in areas pertaining to vocational training and job placement assistance. Early demonstration projects for delivery of vocational training in the correctional environment were expanded into a wider pilot program of inmate training during 1968, and the apparent benefits of these exploratory efforts resulted in the funding of new projects enrolling 4,100 inmates by the end of 1970 (7).

A number of reports have been published in the area of correctional rehabilitation which affirm the value and importance of vocational training. "A Future for Correctional Rehabilitation? Federal Offenders Rehabilitation Program. Final Report," published by Washington State Coordinating Council for Occupational Education, November 1969, tested and demonstrated the effectiveness of providing intensive vocational rehabilitation services to federal offenders at specified states in the correctional process. This report indicates that offender populations are ample resources for potential vocational

rehabilitation clients and that a substantial percentage can be rehabilitated.

"Atlanta Federal Offenders Rehabilitation Project. Final Report," published by Georgia State Department of Education, May 1969, also tested and demonstrated the effectiveness of providing intensive vocational rehabilitation services to federal offenders. The project was based on two basic hypotheses: (1) that traditional VR services are ancillary to effecting attitudinal change in the offender client, and, (2) that areas essentially innovative to VR concern need to be explored if patterns of criminality are to be interrupted. Briefly, the findings are: (1) supportive counseling and psychotherapy proved to be the two most significant services provided; (2) emergency services should be flexible and provided at the point of need; and, (3) the client and his family should be treated as a unit rather than simply providing services to the client alone. "Vocational Rehabilitation Services in a State Penitentiary System, Final Report," published by Oklahoma State Penitentiary and the Oklahoma Vocational Rehabilitation Service, reports on a project to provide total rehabilitation services to a group of handicapped inmates of the State Penitentiary System in order to demonstrate the effectiveness of returning them to society as productive citizens. Specific conclusions from the project are that: (1) many public offenders can be rehabilitated; (2) no hard and fast criteria or cut off points can be specified; (3) selection procedures for clients from correctional institutions need to be carefully evaluated on a periodic basis; and, (4) long programs of vocational training after the inmate has left the institution are not desirable. At the conclusion

of the project, a permanent program of rehabilitation services was initiated in the penitentiary.

Despite the apparent success of these demonstration programs, too little has been accomplished in extending their methods to other institutions. Furthermore, the emphasis on vocational training has been in most cases, restrictive with regard to three areas of apparent importance:

1) Vocational training has followed the academic model stressing relatively long periods of training time to attain journeyman level skills. The majority of prisoners are thus deprived of a chance to obtain employable skills by virture of their short terms of incarceration. Such prisoners are then either denied training or provided with only the initial knowledges and skills of an academic program.
2) For the most part those ancillary skills necessary to obtain and retain employment are not included in the program. Thus trainees obtain a skill, but still lack the marketing abilities (knowledge of the world-of-work) necessary to apply that skill, the interpersonal abilities required to successfully continue in the gainful employment of that skill, and the more general educational abilities underlying progression to higher skill levels.
3) Vocational programs, as with many of the academic programs on which they are based, are too often developed on the basis of management considerations such as available facilities,

instructors, equipment, etc. Such programs seldom coincide with the demands of the market place, training prisoners in skills that are out-dated or in little demand.

OBJECTIVES

The purpose of the Systematic Automotive Education Planning Project (SAEPP) is to provide techniques for developing and implementing realistic vocational training and placement programs for prisoner rehabilitation. Such programs are intended to be based on current and projected labor demands, tailored to the vocational and ancillary needs of the trainee, and integrated within the society to which the prisoner must return and in which he must continue to function successfully.

One important concept within the SAEPP was a citizens council which could function as a bridge between correctional and training personnel and the using society. Such a council would represent the user through the provision of informed guidance and support for proposed programs and by representation of those programs to the using society.

The primary objective of this research was directed toward developing the citizens council concept. An Automotive Trades Council (ATC) was established in support of the formulation and implementation of an automotive maintenance training program. This limited try-out of the concept was to yield information as to the utility of such a council and, if useful, the functions it could accomplish as well as its limitations.

A secondary purpose of the research was to utilize the systems engineering approach in developing a curriculum outline for automotive training. In addition to providing a vehicle for establishing the feasibility of proposed ATC organizations and functions, the activities were to provide two products. First, the resultant curriculum outline would be the basis for establishing new programs for automotive maintenance training and for modifying existing programs. Second, documentation of the methods and procedures developed would provide a model for future formulation of training programs by the SAEPP.

AUTOMOTIVE TRADES COUNCIL

As previously stated, the primary objective of this research was to organize an Automotive Trades Council (ATC) as a mechanism for testing and refining the citizens council concept. Experience gained during this activity was expected to determine the feasibility of the concept, with regard to the availability of trades representatives and the functions they could be expected to perform. The purpose of this section of the report is to present the results of the first year of ATC operation in relation to the successes and failures encountered during the organization, functioning, and administration of the council; problems that are most likely to be encountered as the council transitions to a free agent status with suggestions for minimizing these problems; and, finally, a proposed organizational structure for future ATC operation.

Organization and Functions

The ATC was primarily organized around the concept of a systems engineered training program. Thus, industry representation was obtained to provide job requirements and training information and to certify the capabilities of graduates for job placement (see Appendix A). The industry user personnel represented fleet associations, automotive dealerships, gasoline retailers, independent garages, after-products suppliers, and relevant labor unions. (Representation from chain stores having large automotive sections could not be obtained.) Three additional groups were obtained to support this user core. First, representatives of the publishing industry were solicited to provide publications and publicity guidance. Second, representatives from automotive training and educational centers were solicited to provide current methods information, materiel support, and implementation guidance. Finally, representatives from the public sector provided a pathway into educational and placement organizations. It was felt that such a composite group could both provide the detail necessary for job-relevant programs and the support necessary to implementing changes in the present systems.

Initially the council was organized to act as a single body under the administrative control of HumRRO. Late in the year, an Executive Officer was selected from the ATC membership. Subsequent administration was left to that officer with minimal supporting activities by HumRRO and personnel from the Correctional Manpower Services Project (COMP). Later, COMP administrative and monitoring activities were greatly increased.

Three goals were established for the first year of council operation. First, an orientation to relevant aspects of the Illinois Correctional System was to be accomplished mainly through visits to on-going prison programs and briefings concerning SAEPP programs and plans. The results of this orientation were mixed. Program visits appeared to instill motivation and generate materiel support for courses. Also person-to-person contact resulted in some feeling of responsibility for the placement of ex-offenders.

On the other hand, briefings concerning SAEPP programs and plans met with some resistance. Specifically the reaction was negative to being apprized of accomplished programs -- the implication of a rubber stamp council. The expectation was for earlier participation in planning activities and active involvement in the initiation of new projects.

Thus, it would appear that the "orientation" activities were successful in generating the necessary level of motivation, involvement, and participation. These activities should be continued as a method of obtaining materiel support for on-going training programs, e.g., equipment, literature, visiting training teams, ex-offender placement, etc. The activities should be expanded with regard to SAEPP planning so that council members will be able to provide industry input at an early stage and will develop a proprietary interest in program success.

A second goal of the first year of council operation was to obtain ATC participation in the systems engineering of an automotive training program. Through such participation it was felt that the council would gain experience in the requirements of systems engineering. Partici-

pation would also provide an interactive basis for the development of procedures that could be utilized by the council. The resultant experience and procedures would allow the council to independently systems engineer future trades programs.

Unfortunately, this goal was not met; nor does it appear to be a realistic goal for future ATC activities. The level of industry personnel recruited for the ATC, and believed to be necessary for most ATC activities, does not possess the detailed knowledge of job requirements underlying systems engineering or the motivation to engage in such mundane activities. Furthermore, since most industry programs are not systems engineered, the ATC members cannot act as a contact body to those in their organizations that may possess this information. The specific information is probably not available within their organizations, or at least not in the format required by systems engineering; and the mechanics of obtaining time and monetary support from other parts of the organization are insurmountable for these purposes. In short, industrial organizations will provide executive time to support ATC activities but are not willing to in effect, sign a blank check for speedy support of any of the many activities the ATC may find itself engaged in. It is likely then that the systems engineering process is best left to the education and training institutions. The ATC can then review and monitor resulting programs.

The third goal of the first year of ATC operation was to involve members in a supporting role for on-going training programs. Initially this was restricted to motivational and materiel support for programs

visited. Thus, the presence of the ATC, and their obvious concern for program success, lent emphasis to the program in the eyes of the institution, training staff, and trainees. Additionally, members contributed literature and equipment that they felt was needed to increase the effectiveness of the program. Company training teams were requested to visit the institutions with special programs concerning new equipment, test equipment and procedures. And placement activities were initiated based on personal contacts made with offenders during the visits. This monitoring and supporting role appeared to be highly successful both in the amount and quality of materiel support provided to the institutions and the motivating effect on ATC participation.

Continuation and enlargement of the supporting function of the ATC would appear to be a most effective method for utilizing the ATC in future efforts.

Administration

Originally the ATC was viewed as a self-perpetuating, self-governing body which could independently continue to function in support of SAEPP. Such does not appear to be the case. As with most volunteer groups, members are over-committed to a large number of volunteer projects. Neither they, nor their offices, have the time required for continuing administration of all of the details of ATC functioning. Three administrative activities are most imperative to ATC continuation. First, the planning, scheduling, arranging, and reporting of council meetings is too time consuming and detailed to receive or maintain member interest. Second, entry into institutions

requires a knowledge of agency procedures and regulations that is not possessed by the ATC member. Finally, constructive input to programs must be followed up if change is expected. Few members would have the time or knowledge to see that this input is implemented. Few agencies will change without pressure and members will soon loose motivation if input fails to be implemented.

The above activities have required a considerable amount of contractor time during the first year. Since it is doubtful that the ATC members can assume these duties, some way of providing the ATC with administrative support is required. However, care must be taken to ensure that such support does not become directive. The ATC must continue to function as an independent body.

Transition Problems

The two major problems in transitioning the ATC from contractor administration to a more independent continuing role are: (1) the provision of administrative support for the council, and, (2) the development of realistic, motivating roles and function for council members.

With regard to the first, it is suggested that SAEPP maintain this role in support of the executive officer of the ATC. The role would include the arrangement of meetings for the council as a whole; providing a point of contact for ATC committees wishing entry into state institutions and programs; and providing for follow-up of council and/or committee recommendations to ensure consideration, implementation where feasible, and feed-back of results to council members.

With regard to organization and functions of the ATC, it is readily apparent that the original plan to organize according to systems engineering functions is not feasible. Rather, organization should be more flexible and reflect the interests and strengths of the members. Thus, the council-as-a-whole concept is still effective for reviewing plans and visiting institutions and programs. And this type of organizational activity should be continued on a periodic basis to provide for member interaction with each other and with new programs as well as showing a united effort in support of institutional programs and program participants. Concurrently, membership should be organized into working committees reflecting specific program needs that can be alleviated by member capabilities. To date a number of specific needs have been recognized by the members, e.g., placement interactions with offenders, employers, and parole boards; review of programs realism with respect to such job requirements as OSHA standards; publicity for institution and ATC efforts; training materials in support of on-going programs; and work-release contacts and procedures. Such well-defined committee projects can provide the individual participation and emphasis necessary to maintain ATC interest and motivation.

Proposed ATC Reorganization

As a result of the first year's operational experience, and frustrations, it is proposed that the ATC be reorganized as shown in Figure 1 so as to overcome the major problems foreseen during the transition from strict contractor control and to better provide the types of services required.

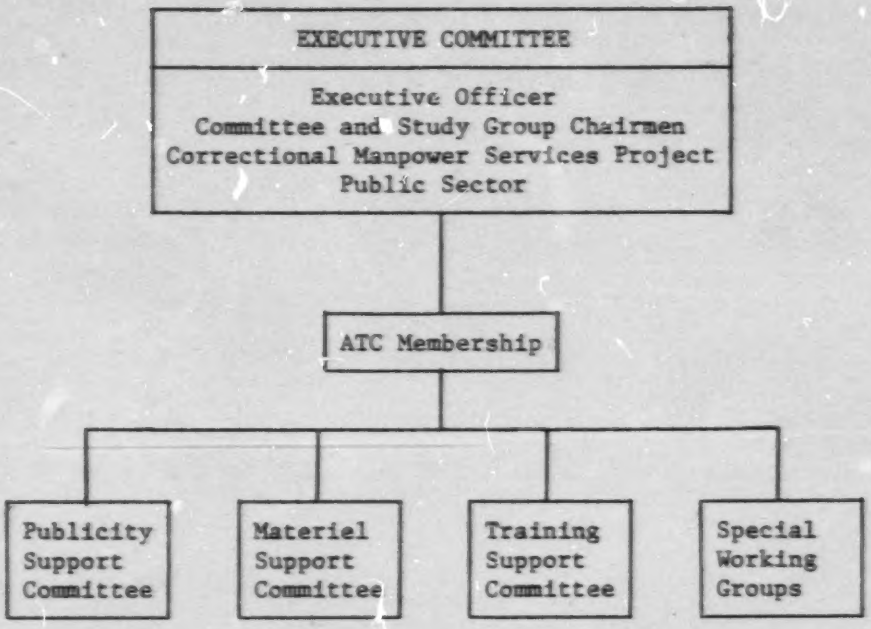

Figure 1. Proposed ATC Organization

First, an Executive Committee should be established to provide guidance and support of ATC activities. The committee should be composed of an executive officer, selected from the ATC membership, and the chairmen of all ATC committees and special study groups. Representatives from the Correctional Manpower Services Project should be included to provide administrative services and pertinent program information. Representatives from the Department of Corrections, the Board of Education, and the Employment Service should also be included to facilitate communication and support implementation of projects. Committee control should rest clearly in the hands of the Executive Officer and his committee representatives from the ATC. However, close administrative planning support will have to be provided by COMP. The committee should hold frequent meetings according to a set schedule to review and plan ATC activities.

The ATC should be retained as a committee of the whole which can be resolved as needed to review programs, develop positions and guidance on new and proposed programs, and visit facilities that need support from the entire council. However, for the most part ATC activities should be conducted by small, special purpose committees under the direction of an appointed chairman. Three permanent supporting committees should be established from non-industry personnel: a publicity support committee from the publisher segment, a materiel support committee from manufacturers and publishing representatives, and a training support committee reflecting both industrial and educational training institutions. The activities of these committees would be developed by the Executive Committee and communi-

cated on a tasking basis by the committee chairman. No special committee meetings would be required.

Further, the industry-user members of the ATC should be constituted as special working groups with immediate reference to the problem areas previously discussed (placement, OSHA standards, work-release, etc.) as well as those that will surface in the future. Some of these problems will be continuing while others will be of short duration. Committees should meet frequently and informally and committee progress and needs should be closely monitored by the Executive Committee.

While this organization will undoubtedly be modified as the ATC gains experience, it does appear to provide a viable basis for obtaining immediate membership involvement while still retaining necessary supervision and minimum member contribution of non-programmed time.

AUTOMOTIVE TRAINING PROGRAM

OVERVIEW

The purpose of this second section of the report is to describe the tasks which HumRRO has completed in the process of designing the SAEPP Curriculum. Below is a brief description of each of these tasks:

1) Labor Market Analysis. In the fall of 1973, HumRRO conducted interviews with members of the ATC as well as other representatives of the auto repair industry to determine the availability of specific kinds of automechanics jobs in the greater Chicago area. Included in the report of this activity are job data on tasks performed, starting salaries, educational requirements, and general hiring practices.

2) Assessment of Client Needs and Services. In early 1974, HumRRO conducted a study to determine the needs of released prisoners related to choosing, finding, obtaining, and holding a job. In addition to identifying the major non job-related knowledges and skills necessary to obtain and retain employment in the automotive trades, the study outlined possible strategies for providing these knowledges and skills in a vocational training program for prisoner rehabilitation.

3) Task Analysis. To develop a multi-level picture of the auto mechanic's job and tasks for each job level, HumRRO conducted an analysis of the tasks included in these jobs by consulting repair manuals and previously conducted task surveys. These jobs and tasks were reviewed by members of the ATC and by several automotive instructors and were revised on the basis of their suggestions.

4) Assessment of Existing Training Services. In the spring of 1974, HumRRO conducted a survey of programs in the greater Chicago area which might be in a position to provide training in the area of auto mechanics to ex-offenders from the Illinois State prison system. It was generally found that the availability of such training for ex-offenders is very limited in both industry and public education.

LABOR MARKET ANALYSIS

Many traditional vocational educational programs are not based on a systematic labor market analysis. As a result, persons who receive vocational training are sometimes unable to find employment. Vocational training in correctional institutions, too, has largely reflected requirements of the institution rather than that of the labor market. Many of these programs also fail to involve labor and industry in the early stages of curriculum design.

Trainees often do not have marketable skills because the curriculum does not make them aware of employer's hiring philosophies. But, only if the businessman's philosophies are known and considered, can the curriculum be designed to reflect their needs and expectations.

The Automotive Trades Council (ATC) will help direct and assist in the planning of the automotive curriculum for the Illinois State Penitentiary System. To increase the likelihood of trainees finding employment after being trained, it is important that all members of the ATC be provided with broad information about the automotive industry including education, training and general hiring practices.

In anticipation of this need, information about the automotive labor market in the Chicago area has been collected.

Population Interviewed

The labor market survey information was provided during interviews in October 1973 with members of the Automotive Trades Council and other persons representing Dealers, Gasoline Retailers, Independent Garage

Owners, Aftermarket businesses, Fleet Operations, Chain Stores, Unions, and Automotive Associations in the Chicago area. Also interviewed during October were other members of the Council and other persons representing automotive trade journals, automobile manufacturers, and automotive instructional personnel from local vocational and technical schools.

The industry was divided into six target populations: Dealers, Independent Garage Owners, Fleet Operations, Gasoline Retailers, Aftermarket, and Chain Stores.

Interview Questions

Each respondent was asked to list by title all the jobs that were performed in the business which he represented. For each job he was then asked to give a brief description of the tasks performed on that job. Thirty-nine different jobs were identified and are included in this summary.

Also included were questions about the availability of personnel, starting salary, important education, training and experience factors, and tool requirements.

Each person was also asked to estimate what percent of the employers would be hesitant to hire applicants with criminal records and what kind of crimes would be most suspect.

The last question was about the general hiring practices, common requirements and other aspects of the work which would make it particularly important to choose or train the right person for the job.

Data Presentation

The estimated number of persons working in the thirty-nine jobs and the estimated number of new persons, who may be needed to fill jobs of this type in the next two years, in each of the six businesses has been tabulated and is presented in Table 1. In addition, answers to all the survey questions have been compiled separately for each of the six representative industries. They have been summarized and the information is presented as :

Table 2: Dealerships
Table 3: Independent Garages
Table 4: Fleet Operations
Table 5: Gasoline Retailers
Table 6: Aftermarket
Table 7: Chain Stores

Introducing each of these individual Tables is a short narrative to emphasize particular Table data and to provide additional information which may be relevant but, because of space and format, was not included on the Table.

Abbreviations have been used throughout the narrative and on the Tables. The Table legends have the following explanations:

°Data collected October 1973.

*If performed, may have been included under one of the other job duty titles.

†General concern for safety & equipment (GCFS&E).

°°May have been included in information for Independent Garages

The ABCD designations are those used by the Union to designate the mechanic's level of proficiency. The C & D mechanic level is the lowest level and includes general maintenance and minor tune-up while

the A & B designation is for those mechanics capable of performing more complicated work including complete engine overhaul.

TABLE I: SUMMARY OF ESTIMATED CURRENT AND NEEDED AUTOMOTIVE MAINTENANCE MANPOWER FOR THE CHICAGO AREA BY JOB TITLE AND INDUSTRY*

TITLE OF JOB AND/OR DUTIES	DEALERS		INDEPENDENT GARAGES		FLEET		GASOLINE RETAILERS		AFTERMARKET		CHAIN		TOTALS	
	Estimated		Estimated		Estimated		Estimated		Estimated		Estimated		Estimated	
	Working	Need	Working	Need	Working	Need	Working	Need	Working	Need	Working	Need	Now Working	Will Need
Car Washers/Porters	1,800	100	100	5	120	40	2,000	60	*				4,120	205
Hikers/Porters	1,900	100			3	1							1,903	101
Detailers For New & Used	650	65			*								650	65
Towing	*		500	10			*						500	10
TIRE SERVICES							*							
Apprentice									25	18			25	18
Journeymen	*		500	50	*				475	45	105	10	1,080	105
Truck specialists									50	10			50	10
Off Road specialists									25	4			25	4
Installers (TBA)							*		*		135	30	135	30
Greasers/lube men	650	65	100	5	100	10	*		*		*		850	80
New car inventoryman	350	10			*								350	10
Driveway salesman (TBA)							50,000	6,000	*		*		50,000	6,000
MECHANIC/TECHNICIAN														
Apprentice	1,900	190			1,500	150							3,400	340
Helper to Mech/Tech	650	160	*		150	50	*				42	10	842	220
Mech/Tech Bk/Rp/Line (ABCD)	1,900	190	15,000	4,000	6,000	700	2,000	500					24,900	5,390
Mech/Tech (C&D)	3,250	325	1,000	150	200	20	4,000	1,000			270	50	8,720	1,545
Mech/Tech (A&B) Specialized	1,900	190	5,000	1,000	100	50							7,000	1,240
Journeyman TECH (A&B Sup)	1,300	65	*		800	160							2,100	225
Truck Mech/Tech	*		*		500	100							500	100
SPECIALITIES														
Air Cond/Heat/Radiator	*		500	100	*		*		*				500	100
Glass/Upholstery			400	50					*				400	50
Transmissions	*		5,000	500	*				*				5,000	500
Muffler/Exhaust	*		400	100	*		*		*		*		400	100
Brakes	*		500	50	*		*		*		*		500	50
Rustproof/Undercoat	*		100	5					*				100	5
Alignments	*		1,000	100	*		*				*		1,000	100
Chassis Repair & Frame	*		150	50									150	50
BODY SHOP/TECHNICIAN														
Apprentice	30	10	200	300									230	310
Body Shop Tech	1,800	200	15,000	3,500	150	25							16,950	3,725
Asst. to Body Shop Tech	650	65	*		*								650	65
Painter Apprentice	30	10	*										30	10
Asst. to Painter	200	20	500	50	50	5							750	75
Painter	650	30	1,500	150	100	10							2,250	190
Service Writer	2,000	500									43	4	2,043	504
Service Manager	650	65			*		6,000	100			43	4	6,693	169
Parts Helper/Stock	50	5							3,500	350	*		3,550	355
Parts Counter Man	650	50			150	50			4,000	800	*		4,800	900
Parts Supervisor	350	10			15	5			500	20	*		865	35
Machinists			*		*				2,000	1,500			2,000	1,500

*Data collected October 1973
*If performed, may have been included under one of the other job duty titles

INFORMATION TO ACCOMPANY TABLE 2:

DEALERSHIPS

General Information about the Business and the Associations Which Represent the Industry

There are approximately 650 members of the Chicago Automobile Trade Association. These dealers employ some 23,000 persons who perform one or more of the 39 automotive maintenance jobs surveyed. All of those interviewed have union employees. More types of automotive jobs are performed within dealerships than any other represented business. These jobs run the gamut from hiker to machinist. Table 2 indicates 10,000 persons are classified as mechanic and another 3,000 work as body-shop technicians of some sort. Most dealers have parts departments and also hire detail and porter type personnel.

Kinds of Jobs Performed and Emphasis

Mechanics working for dealers are usually able to perform automotive maintenance; i.e., installing parts, tire changing, tune-ups, etc., and a lesser number of them are proficient at complete engine overhaul. With the exception of glass and upholstery, dealers usually have the equipment, tools and/or the person employed that can also provide the specialty services listed in Table 2. The dealer body-shop technicians are usually proficient at both body-fender work and painting. Most of them work on a fifty-fifty labor charge arrangement. Body shop personnel's income ranged from $14,000 to $21,000 a year.

Growth Outlook

Most persons interviewed, representing dealerships, felt dealer businesses and the need for automotive maintenance personnel, with one exception, would stay about the same for the next two years. This exception was mechanic/technician at all levels of expertise. Especially important would be the mechanic that could work competently on either foreign or domestic small cars. Dealers, as a group, had the highest level of education and job experience requirements for entry-level positions. Compared with the other automotive businesses represented in the survey, their estimated entry-level salaries were higher for most jobs.

Training Facilities

Dealers spoke highly of their own manufacturers' training courses and facilities. Most of those interviewed were aware of, had participated in, or were participating actively with, Department of Labor or other governmentally-funded programs which were training automotive mechanics at some level. Excellent manufacturer training facilities are available in the Chicago area.

It was evident from the interviews that dealers did not always take advantage of the training offered by the manufacturers. One of the reasons given was that factory-trained personnel, although a valuable asset to the dealer, sometimes, maybe even because of this special training, left the dealer for other employment. Manufacturers also explained that some dealers seemed to believe that the special training made the employee more eligible to seek and find employment elsewhere.

General Information about Hiring Practices and Stated or Implied Attitudes Toward Hiring Persons with a Criminal Record

Of all the businesses which answered the question about the hiring practices toward former criminals, the dealer population proved to be the most hesitant to hire persons with criminal records. They gave many reasons for this hesitancy. Leading the list was that the dealer's costly inventory of both products and parts makes him especially vulnerable to petty theft and robberies of magnitude. Therefore, they felt the risk was already high and would be even more so if they were to hire persons with specific records of auto theft and other crimes against the automotive industry. New car inventoryman was the one job for which there seemed to be full agreement. Apparently, the temptation and opportunity for theft on this job would virtually make the job closed to a person with a known criminal record. Parts counterman was also classified as a job with lots of temptation associated with it. Crimes of violence as well as theft were suspect. They were hesitant, too, to hire persons with records because they felt some of their employees would not want to work along with ex-offenders. Finally, they felt that if they hired them and customers knew about it, they might not be as willing to leave their cars for service.

Summary

Dealers have indicated that they need both mechanical and body-shop personnel right now. The Industry does not see any drastic decrease in sales or service in the near future. It would, therefore, seem that the dealers have a lot to gain from the Systematic Automotive

Education Planning Project in that they prefer to hire the already-trained and competent person. Through the ATC they could insure that training and certification met their criteria or performance.

TABLE 2: SUMMARY OF CHICAGO AREA AUTOMOTIVE MAINTENANCE LABOR MARKET INFORMATION: DEALERSHIPS*

TITLE OF JOB AND/OR DUTIES	APPROXIMATE/ ESTIMATED STARTING SALARY	ESTIMATED JOBS IN THE CHICAGO AREA	INCREASE FOR THIS JOB IN THE NEXT TWO YEARS	MAY OPEN NEXT TWO YEARS	EASY OR HARD TO FILL THIS JOB	EDUCATION REQUIREMENTS	TOOLS REQUIRED AND ESTIMATED COSTS	SPECIALIZED TRAINING NEEDED FOR THIS JOB	JOB EXPERIENCE NEEDED	PERCENT HESITANT TO HIRE IF APPLICANT HAS RECORD	TYPE OF CRIME MOST SUSPECT FOR THIS JOB	COMMON REQUIREMENTS FOR ENTRY INTO THIS TYPE OF WORK AND OTHER COMMENTS
Car Washers/Porters	$2.25-3.45/hr	1,900	Stay same	100	Very hard	HS Equiv	None	Drivers lic	1 year	95%	Theft, Dishonesty, Violence	Recommendation, No garnishee, (Has to meet public)
Hikers/Porters	$2.25-3.45/hr	1,900	Inc some	100	Very easy	R&W	None	None	None	95%	Theft, Dishonesty, Violence	Good safe driving record, Valid lic., Appearance, (Out of school)
Detailers for New & Used	$3.50-5.00/hr	650	Stay same	65	Very hard	R&W	None	None	1-3 yrs	50%	Violence	Attn to detail, Skill, Thoroughness, Motivation to work
Towing	*									100%		
TIRE SERVICES	*											
Apprentice												
Journeyman												
Truck Specialists												
Off Road Specialists												
Installers (TBA)												
Greasers/lube man	$3.45/hr	650	Stay same	65	Easy hard	R&W	$50	None	Several wks	75%	Theft	Able to follow verbal & written directions
New Car Inventoryman	$3.95/hr	350	Stay same	10	Hard	R&W HS Equiv	None	None	From within	100%	Theft	Honest, Hard working, (Lots of temptation for theft)
Driveway Salesman (TBA)												
MECHANIC/TECHNICIAN												
Apprentice	$3.45-6.00/hr	1,300	Inc. lot	190	Easy-hard	R&W-HS Equiv	$100-150	None-factory	1-4 yrs	75-90%	Theft, Individual record	Mech abil, Fol. dir., Md. wkg., Enjoy auto wk, Stable person w/fam. resp
Helper to Mech/Tech	$3.95-6.00/hr *	650	Stay same	160	Some easy	R&W-HS Equiv	$50	None	1 year	95%	Theft, Violence	Recommendations, *
Mech/Tech (R&M/Line(ASCD)	$5.50-6.00+40 hrs	1,300	Inc some	190	Very hard	R&W HS Equiv	$500-1000	Factory	5 years	75-95%	Depend on individual	Mech knowl, Well rounded person, Motivated,(Fam. resp.)(Living arrangs)
Mech/Tech (CAD)	$5.50 + $/hrs	3,250	Inc some	325	Hard	R&W HS Equiv	$500-1000	Factory	3 yrs OJT	75-95%	Individual record	Mech knowl, Motivated to work
Mech/Tech (A&B)Spec.	$6.00/hr + 40 hrs	1,900	Inc some	190	Very hard	HS Equiv	$1000-15000	Factory	10 yrs	50%	Individual record, Violence	Spec trng, No drinking, Clean
Journeyman/Tech(A&B)Sup	$150-260/week +	1,300	Increase	65	Very hard	R&W HS Equiv	$1000-1500	Factory, OJT	10 yrs	50%	Specific record, Violence	Ability to specialize & supervise, Pride in work
Truck Mech/Tech	*											
SPECIALITIES												
Air Cond/Heat/Radiator	*											
Glass/Upholstery												
Transmissions	*											
Muffler/Exhaust	*											
Brakes	*											
Rustproof/Undercoat	*											
Alignments	*											
Chassis Repair & Frame	*											
BODY SHOP/TECHNICIAN												(Body/Fender may also be painter)
Apprentice	$3.45-6.00/hr	30	Stay same	10	Hard	R&W	$300	Can be OJT	OJT	75%	Individual record	Ability & special talent, Neat, Thorough, Punctual
Body Shop Tech	50-50 labor$21,300	1,800	Inc some	200	Very hard	R&W HS Equiv	$800	Needs	OJT	75%	Theft	Quality wk, Abil to get along w/others, Neat, Thorough
Asst to Body Shop Tech	$3.95	650	Inc some	65	Very hard	HS Equiv	None	Knowledge	5 yrs	75%	Theft	Physically able, Attn to detail
Painter Apprentice	$3.45-6.00/hr	30	Stay same	10	Hard	R&W	$300	OJT	OJT	75%	Individual	Talent, Neat, Thorough
Asst to Painter	$3.45-6.00/hr	200	Stay same	20	Hard	R&W 8th gr	None	None	OJT	75%	Individual record	Sober, Color ability
Painter	$260-400/week	650	Stay same	30	Very hard	R&W 8th gr	None	None	1-2 yrs	75%	Individual record	Sober, Color perception good
Service Writer	$150-175/week	2,000	Inc some	500	Very hard	HS Equiv	None	Experience	2 years	75%	Rape, Assault	Mech background, Sales ability, PR, Appearance (Deals with public)
Service Manager	$21,000/year	650	Stay same	65	Very hard	HS Equiv	None	Sales, fcty	2-3 yrs	95%	Individual record impt	Organize time, Technically competent, Manage men, Can sell
Parts Helper/Stock Clerk	$115-120/week	50	Stay same	5	Easy	R&W	None	None	OJT	80%	Individual record	Knowl math/dependable, Honest, Thorough
Parts/Counterman	$150-225/week	650	Stay same	50	Some easy	HS Equiv	None	Bookkeeping	1-2 yrs	95%	Theft, Violence	Math/Clerical abil - abil to stay on job
Parts Supervisor/Mgr	$22-25,300/year	350	Stay same	10	Hard	HS Equiv	None	Factory	OJT	90%	Theft	Math & Clerical ability
Machinists												

*Data collected October 1973
**If performed, may have been included under one of the other job duty titles

INFORMATION TO ACCOMPANY TABLE 3:

INDEPENDENT GARAGES

General Information about the Business and the Associations Which Represent the Industry

It was estimated that there are more than 6,000 independent garages and body shops in the Chicago area. They employ approximately 47,000 men in automotive types of jobs ranging from car washer to machinist. Some 15,000 are journeyman mechanics and another 15,000 could be classified as body-shop technicians. Union and non-union shops are represented in two organizations, Consolidated Automotive Repairmen's Association, and the Automotive Service Council of America, Illinois Chapter.

Kinds of Jobs Performed and Emphasis

Most of the mechanic/technician jobs are performed by line mechanics; i.e., those that can do all ABCD type of jobs on any type of car. Besides major engine overhaul they may work on chassis repair and frame straightening. For the purpose of this survey the independent garage table includes the paint, body-fender repair, and specialty shops.

Growth Outlook

Those interviewed said there is an urgent need for well-trained mechanics who are competent at the A & B level but who also excel in one or more of the specialty type repair services. Competent body-shop technicians are also in demand. It was estimated that 2,000 could be utilized right now if they were available.

Some specialty jobs were seen as easy to fill. Especially difficult to find were air conditioning/radiator/heater repairmen. Hard to locate

too, are transmission and chassis repairmen. Most difficult and extremely hard to find are those trained in "heavy duty" frame straightening.

For certain types of jobs (most of those in the specialty area) they felt they often lost potential customers to competition businesses like chain outlets which sold "parts" rather than service and repair.

Training Facilities

They felt that painting and body-fender work can be adequately trained on the job if the apprentices have the necessary aptitude and motivation to learn and work. Many independent garage owners have already had experiences training persons as apprentices on the job. Most felt that it would take about four years apprentice training to be 100 percent useful as a body-fender paint technician.

General Information about Hiring Practices and Stated or Implied Attitudes Toward Hiring Persons with a Criminal Record

Excluding the specialty shops, the hiring policies and actual business operation of these independent garages almost totally were at the discretion of the shop owner. He was usually trained or able to do most or all of the services his shop offered. He wanted his employees, such as his mechanics who dealt directly with his customers to represent the same kind of philosophies and work performance he expected from himself. The common requirements for hiring, after competency, were youth, good health, strength, and a general concern for safety and equipment.

No one interviewed felt that the lack of either an eighth grade or high school diploma or its equivalent would deter hiring. The ability to read and write was important but if the applicant could really do the job, those requirements in some instances may also be waived. The persons who were involved in mechanical work or body-shop personnel in positions to deal with the public should be able to "sell the job" just as the independent garage owner would do. Quality work, attention to details and thoroughness were of the utmost importance. In most discussions the employee was expected to be mature and able to make decisions and judgments on his own and have the capacity to be self-initiating. However, the independent garage owners displayed a reluctance to hire persons to perform jobs which they themselves could not perform. This was due to the desire by the garage owners to prevent any employee from making undue demands upon them as a result of his exclusive ability to perform the work.

The attitude against hiring ex-offenders ran from 0 to 75 percent and theft was the crime which would be most suspect. Theft was described as important, not only in that the ex-offender might steal from the garage owner, but more in the fear that the customer's car (or things left in it) would be in jeopardy.

Bonding was also an important issue with one interviewee. Basically, it was felt that an individual's record and his ability would be the most important thing, next to the impression he made at the time he applied for employment.

Summary

No other group interviewed stressed perfection as adamantly and was as concerned over encouraging young persons to enter the automotive field as were the independent garage owners. Not that they were especially anxious to train or entice ex-offenders into the trade, but they wanted and felt they needed persons who would enjoy doing quality work in record time. They also believed in a professional organizational commitment.

TABLE 3: SUMMARY OF CHICAGO AREA AUTOMOTIVE MAINTENANCE LABOR MARKET INFORMATION: INDEPENDENT GARAGES*

TITLE OF JOB AND/OR ENTITIES	APPROXIMATE/ ESTIMATED STARTING SALARY	ESTIMATED JOBS IN THE CHICAGO AREA	ENCOURAGE FOR THIS JOB IN THE NEXT TWO YEARS?	VERY OPEN NEXT TWO YEARS	HARD OR HARD TO FILL THIS JOB	EDUCATION REQUIREMENTS	TOOLS REQUIRED AND ESTIMATED COSTS	SPECIALIZED TRAINING NEEDED FOR THIS JOB	JOB EXPERIENCE NEEDED	PERCENT HESITANT TO HIRE IF APPLICANT HAS RECORD	TYPE OF CRIME MOST SUSPECT FOR THIS JOB	COMMON REQUIREMENTS FOR ENTRY INTO THIS TYPE OF WORK AND OTHER COMMENTS
Car Washers/Porters	$125/week	100	Stay same	5	Very easy	HSGrad	None	None	None	10%	Individual record	Dependable
Hikers/Porters												
Detailers for New & Used												
Towing	$200/week	500	Stay same	10	Very easy	HSGrad	None	None	6 mos	50%	Theft, Violence, Addiction, Alcohol	Physical strength, Dependable, Neat, GCFSAE+, (Meet public)
TIRE SERVICES												
Apprentice												
Journeymen	$175/week	500	Inc a lot	50	Very easy	HSGrad	None	None	6 mos	10%	Theft	Tolerance to noise, Youth, Strength, GCFSAE+
Truck Specialists												
Off Road Specialists												
Installers (TBA)												
Greasers/Lube man	$175/week	100	Stay same	5	Very easy	HSGrad	None	None	None	50%	Individual record	Dependable, Thorough
New Car Inventorymen												
Driveway Salesman (TBA)												
MECHANIC/TECHNICIAN												Ability to deal with public, "Sell job"
Apprentice												
Helper to Mech/Tech	*											
Mech/Tech3 Sideline(ABC2)	$240-250/week	15,000	Inc some	4,000	Very hard	HSGrad	$1000-2000	Sch & OJT	2 yrs	10-75%	Theft	Driver lic, Ability to sell job, Neat, GCFSAE+
Mech/Tech (CAR)	$240-250/week	1,000	Inc some	150	Hard	HSGrad	$300-1000	OJT	1 yr	10-75%	Theft	Driver lic, Ability to sell job, GCFSAE+
Mech/Tech (AAB)Spec.	$240-250/week	5,000	Inc lot	1,000	Very hard	HSGrad	$1000-2000	Sch-OJT	2 yrs	10-75%	Theft, Crimes against auto trade	Valid driver lic, Ability to sell job, Neat, GCFSAE+
Journeymen/Tech(AAB)Sup	*											
Truck Mech/Tech	*											
SPECIALITIES												
Air Cond/Heat/Radiator	$300/week	500	Inc lot	100	Very hard	HSGrad	$1000	School & ob	OJT 1 yr	10%	Theft	Able to use chemicals, Make judgements, Weld, Thorough, GCFSAE+
Glass/Upholstery	$300/week	400	Inc some	50	Hard	HSGrad	$500	Rec ref	Not req	10%	Individual record	Meticulous, Sales abil, Neat, Abil to deal w/public, GCFSAE+
Transmissions	$300/week	5,000	Inc some	500	Hard	HSGrad	$2000-3000	Important	1 yr	10%	Theft	Able to make judgments, Abil to diagnosis, Thorough, GCFSAE+
Muffler/Exhaust	$175-200/week	400	Inc lot	100	Very easy	HSGrad	$500	Good if had	6 mos	10%	Theft	Abil to weld, Youth, Strength, GCFSAE+
Brakes	$300/week	500	Inc some	50	Easy	HSGrad	$1000	None	OJT 6 mos	10%	Theft	Know hydraulic system, Youth, Strength, GCFSAE+
Rustproof/Undercoat	$250/week	100	Inc some	5	Very easy	HSGrad	None	None	None	10%	Theft	Dependable, General concern for safety & equipment
Alignments	$350/week	1000	Inc some	100	Very easy	HSGrad	$1500	OJT, Sch if poss	1 yr	10%	Theft	Youth, Strength, General concern for safety & equipment
Chassis Repair & Frame	$350/week	150	Stay same	50	Ext hard	HSGrad	$300-2000	All OJT	Need OJT	3-75%	Individual record	Welding ability, Spatial orientation, Metal tolerance, Youth, Strength
BODY SHOP/TECHNICIAN												Sales & PR ability, Thorough, Neat, GCFSAE+
Apprentice	$175/week	200	Inc lot	100	Very hard	HSGrad	$300	OJT	1-4 yrs	75%	Crimes against auto trade	Reliable, Punctual, Good credit record
Body Shop Tech	$260-450/week	15,000	Inc some	3,500	Very hard	HSGrad	$300-3000	Need vision	2 yr min	Indiv record	Theft	Attitude, Attn to detail, Neat, Youth, Strength, GCFSAE+
Asst to Body Shop Tech	*											
Painter Apprentice	*								1 yr	10-75%	Theft	
Asst to Painter	$150-200/week	500	Inc some	50	Hard	HSGrad	To $500	OJT	1 yr	10-75%	Theft	Able to take directions, Good eye for color, Neat, Thorough
Painter	$200-300/week	1,500	Inc some	150	Very hard	HSGrad for sch	time-$500	Sch & OJT				Clean, Reliable, Abil to match color, Make judgments, Neat, Thorough
Service Writer												
Service Manager												
Parts Helper/Stock Clerk												
Parts/Counterman												
Parts Supervisor/Mgr												
Machinists	*											Valid Journeyman Mechanic if done

*Data collected October 1973
**If performed, may have been included under one of the other job duty titles
+General concern for safety & equipment (GCFSAE)

INFORMATION TO ACCOMPANY TABLE 4:

FLEET OPERATIONS

General Information about the Business and the Associations Which Represent the Industry

The fleet businesses are important, in that one can hardly think of any business, department store, corporation, utility company, etc., where there would not be the possibility of a large complement of company cars, delivery trucks and maintenance vehicles. The Automotive Transportation Supervisor's Associations of Chicago has some 100 members representing companies with self-serviced fleets of 30 or more.

Survey information was taken from visits to two car rental/leasing companies, and interviews with fleet maintenance personnel for large corporations, and cab and bus companies. Most of the employees they represented were members of unions.

With the exception of body-fender technicians and depending upon the size and type of the fleet operation (passenger, truck, leasing or a combination) the list of job duty/titles looks much like that of the dealer. Most of the emphasis is on routine and preventive maintenance.

Kinds of Jobs Performed and Emphasis

With the emphasis on preventive automotive maintenance, the longer, more entailed automotive jobs are not usually performed within the fleet operations. New car inventorymen and detailers are needed with car rental and leasing firms. It is important that mechanics working with fleets be trained to know the EPA regulations about allowable automotive emission, as well as how to fill out necessary governmental forms

indicating truck readiness for interstate travel. Fleet maintenance is not just an eight-to-five arrangement. Some jobs such as lubes are done on night shifts.

Cabs require a great deal of body-fender repair. This can be explained by several facts. Cab drivers, although experienced drivers, are subject to more accidents than usual during the first six months of their experience in driving cabs in the Chicago traffic. This, coupled with the fact that there is almost a 100 percent turnover in the cab driver occupation, accounts for the need for body-fender work in that type of fleet operation.

Growth Outlook

Those persons interviewed did not see a substantial change in the operation of their businesses in the near future. All of them did, however, emphasize the hope that any person who would be entering into their work setting be qualified, and most importantly be both motivated to learn and motivated to work.

Training Facilities

Several of those interviewed familiar with fleet operations maintenance had participated in training programs which were geared for both the entry-level mechanic and the experienced mechanic or fleet supervisor who wanted to continue to keep abreast of the changing automotive industry. Some companies had their own training or had access to the manufacturer's programs.

General Information about Hiring Practices and Stated or Implied Attitudes Toward Hiring Persons with a Criminal Record

The hiring policy for fleets which supported the manufacture, sales and administration of large corporations was usually the responsibility of a large personnel department quite removed from the automotive maintenance department. Smaller or more specific fleet operations whose primary concerns were to transport people rather than goods (cab, bus and car rental/leasing companies), indicated that they would have more say in the hiring procedure.

Collated estimates of how persons might feel about hiring a person with a criminal record was 80 to 100 percent for most mechanic jobs. Fewer body shop positions were needed in the fleet businesses, generally, and the estimates indicated it might not be as detrimental to the applicant.

Theft was mentioned most often as the crime which would be suspect, but the consensus was that companies would be most hesitant to hire former addicts.

One company representative indicated that some companies use a polygraph test as part of their personnel selection process.

Summary

Members of the ATC and others interviewed about labor market information for self-serviced fleet operations agreed that there would be many different hiring policies, based on fleet type and size. Government regulations and union policies should be considered also when trying to judge this labor market.

TABLE 9: SUMMARY OF CHICAGO AREA AUTOMOTIVE MAINTENANCE LABOR MARKET INFORMATION: FLEET OPERATIONS*

TITLE OF JOB AND/OR DUTIES	APPROXIMATE/ ESTIMATED STARTING SALARY	ESTIMATED JOBS IN THE CHICAGO AREA	INCREASE FOR THIS JOB IN THE NEXT TWO YEARS	WAY OPEN NEXT TWO YEARS	EASY OR HARD TO FILL THIS JOB	EDUCATION REQUIREMENTS	TOOLS REQUIRED AND ESTIMATED COSTS	SPECIALIZED TRAINING NEEDED FOR THIS JOB	JOB EXPERIENCE NEEDED	PERCENT HESITANT TO HIRE IF APPLICANT HAS RECORD	TYPE OF CRIME MOST SUSPECT FOR THIS JOB	COMMON REQUIREMENTS FOR ENTRY INTO THIS TYPE OF WORK AND OTHER COMMENTS
Car Washers/Porters	$110/wk	120	Stay same	40	Very easy	R&W 8th grade	None	None	None	Indiv rec	Violence, Theft	Dependable
Hikers/Porters	$3.55/hr	3	Stay same	1	Very easy	R&W HS Equiv	None	None	OJT	100%	Rape, Addict, Violence	Driver lic. (Some use polygraph)
Detailers for New & Used	•											(Leasing & rental fleets would have)
Towing												
TIRE SERVICES												
Apprentice												
Journeyman	•											
Truck Specialists												
Off Road Specialists												
Installers (TBA)												
Greasers/lube man	$3.07-4.40/hr	100	Stay same	10	Very easy	R&W HS Equiv	None-$75	None	OJT School	50-100%	Rape, Violence, Militant	Work record, Punctual, Willingness to learn, Thoroughness, (Work nights)
New Car Inventoryman	•											(Leasing & rental fleets would have)
Driveway Salesman (TBA)												
MECHANIC/TECHNICIAN												
Apprentice	$5.11-6.00/hr	1,500	Same	150	Very hard	HS Equiv	$200-500	None	1-4 yrs	80-100%	Theft, Addict, Rape, Violence	Basic interest in auto work, Good health, Mechanical aptitude
Helper to Mech/Tech	$3.50-5.60/hr	150	Stay same	50	Very easy	HS Equiv	$100-300	None	Yes 2 yrs	80-100%	Theft, Violence, Rape	Basic mechanical knowl, Good health, Punctual, (Seen as dead-end job)
Mech/Tech Skills/Line(ABCD)	$6.31/hr	6,000	A lot	700	Very hard	HS Equiv	$2000-3000	Diesel, Ignit	4-10 yrs	80-100%	Theft, Addiction, Rape, Extortion	Practical knowledge, Desire to get ahead, Punctual, Healthy, GCFSAE+
Mech/Tech (C&D)	$3.80-5.61/hr	200	Same	20	Hard	HS Equiv	$300-2000	Diesel	2 yrs	80-90%	Theft, Violence	Attitude, Willingness to learn
Mech/Tech (A&B)Spec.	$4.22-6.56/hr	100	A lot	50	Easy-hard	R&W	$2000-3000	Spec trng diesel	2 yrs	50%	Theft, Violence	Public relations ability
Journeyman/Tech(A&B)Sup	$6.56/hr+	800	Same	160	Very hard	HS Equiv	$400-2000	Diesel	8-10 yrs	80-100%	Theft, Violence, Addiction	Exceptional knowl of mech, Troubleshooter, Attitude, Leadership, Congenial
Truck Mech/Tech	$6.48-7.04/hr	500	Same	100	Very hard	HS Equiv	$1000	Diesel	1-2 yrs	95%	Theft, Violence	Job performance, Background, Appearance, Able to complete govt forms
SPECIALITIES												
Air Cond/Heat/Radiator	•											
Glass/Upholstery												
Transmissions	•											
Muffler/Exhaust	•											
Brakes	•											
Rustproof/Undercoat												
Alignments	•											
Chassis Repair & Frame												
BODY SHOP/TECHNICIAN												
Apprentice												
Body Shop Tech	$4.02/hr	150	Same	25	Easy-hard	R&W HS Equiv	$250-300	None	OJT 6 mos	10%	Violence, Addiction	(Many accidents in first 6 mos for cab drivers)
Asst to Body Shop Tech	•											
Painter Apprentice												
Asst to Painter	$2.40-4.00/hr	50	Stay same	5	Hard	R&W	None	None	OJT	10%	Violence, Alcohol, Addict	Dependable
Painter	$4.02/hr	100	Stay same	10	Hard	R&W	$250-300	None	OJT	10%	Violence, Alcohol, Addict	Punctual, Reliable
Service Writer												
Service Manager	•											
Parts Helper/Stock Clerk												
Parts/Counterman	$150-280/wk	150	Stay same	50	Very hard	HS Equiv +	None	Dealer crs	6 mos-1 yr	50%	Theft	Mech knowl, Math, Record keeping skill, Tying, (Lots of temptation on job)
Parts Supervisor/Mgr	$150-280/wk	15	Stay same	5	Very hard	HS Equiv +	None	None	OJT	100%	Rape, Violence, Theft, Addiction	Previous experience, Good work record
Machinists	•											

*Data collected October 1973
**If performed, may have been included under one of the other job duty titles
+General concern for safety & equipment (GCFSAE)

INFORMATION TO ACCOMPANY TABLE 5:

GASOLINE RETAILERS

General Information about the Business and the Associations Which Represent the Industry

There are approximately 6,000 retail gasoline service stations in the Chicago area. They range from the independent or franchise arrangement to the oil company brand and unbranded operations. Hours of service may vary anywhere from an eight to a twenty-four hour day, based on volume of sales, location or the desire of the owner. As shown in Table 5, it is estimated that 50,000 driveway salesmen, 6,000 mechanics and 6,000 service managers are presently employed on a full- or part-time basis to support this effort. Not all gasoline retailers belong to Gasoline Retailer's Associations, nor are all of them or their employees members of unions.

Kinds of Jobs Performed and Emphasis

In almost all stations the "hand wash and polish" has been replaced by the fully or partially automatic car wash equipment, decreasing the need for car washers. Dryers, detailers, and vacuumers who are employed receive low pay and the work is dirty, cold, and back-breaking. Most car washers are seen as transient employees and because of the high turnover, the consensus was that almost anyone -- a body -- would be hired if the slot were open.

Some stations limit sales to gas and oil, while others sell gas and oil, as well as tires, batteries, and accessories (TBA). There are approximately 50,000 driveway salesmen who pump gas and change tires,

hoses, fan belts, blades, and fuses. (This number reflects many part-time employees.) A fewer number of stations have bays or "back rooms" where repairs and services, ranging from lube jobs to complete engine overhaul, are performed. Most stations who hire mechanics do the types of jobs which are just short of "pulling the head(s)." This accounts for the fewer number of mechanics classified as ABCD. In some stations the manager may "farm out" longer and more major repair jobs to an independent garage or specialty shop with whom he has made special arrangements for this type of work. The types of jobs that stations offer will depend much upon the time of day, the location of the station and customer demand. The majority, though, limit their service to driveway sales and TBA. When towing, tire services, parts installation and lube jobs are performed, they are included in the Table under one of the other job duty/titles.

Growth Outlook

The last few years show a 35 percent turnover in gasoline station ownership. Gasoline sales have been increasing steadily at approximately a 6 percent rate. Most of the "local" station owners are independent businessmen, and their businesses flourished because of the long hours, personal touch, service, and friendships they established with regular customers. Many of these stations have, in some ways, been "crowded out" by the larger and more conveniently located stations. The oil company emphasis is on "hi pump" volume sales, automatic car wash facilities and specialty shops with franchise tune-ups.

The energy/fuel crisis, of course, threatens both the independent and company-owned station. There will be a decrease in the number of stations in the future, as well as a corresponding decrease in the number of employees that will be needed to operate these stations, regardless of job duty/title.

Training Facilities

Large oil companies like Phillips Petroleum and Standard Oil, for example, conduct classes to train their service attendants and station managers. These classes help to insure that persons representing the company know the different company products along with the expected company courtesies and salesmanship.

General Information about Hiring Practices and Stated or Implied Attitudes Toward Hiring Persons with a Criminal Record

Hiring practices toward those with criminal records varied from 0 to 100 percent, with company-operated stations the least likely to hire persons with criminal records. Bonding practices influence this hiring decision. It appeared that station owners see driveway salesmen and service manager employees as extensions of themselves or as their personal representatives. They look for applicants who are not only industrious and able to deal with the public, but who can insure the customer would want to come back for service again and again. Most of them felt that each applicant would be chosen on an individual basis.

Summary

In the near future there will be a decrease in the actual number of operating stations. As businesses fold or close, and the fuel shortages become more acute, there will a further change in the hours of operation. Consequently, there will be a further decrease in the number of employees that will be needed for gasoline retailer businesses, regardless of job duty/title.

TABLE 5: SUMMARY OF CHICAGO AREA AUTOMOTIVE MAINTENANCE LABOR MARKET INFORMATION: GASOLINE RETAILERS*

TITLE OF JOB AND/OR DUTIES	APPROXIMATE/ ESTIMATED STARTING SALARY	ESTIMATED JOBS IN THE CHICAGO AREA	INCREASE FOR THIS JOB IN THE NEXT TWO YEARS	HOW OPEN NEXT TWO YEARS	EASY OR HARD TO FILL THIS JOB	EDUCATION REQUIREMENTS	TOOLS REQUIRED AND ESTIMATED COSTS	SPECIALIZED TRAINING NEEDED FOR THIS JOB	JOB EXPERIENCE NEEDED	PERCENT HESITANT TO HIRE IF APPLICANT HAS RECORD	TYPE OF CRIME MOST SUSPECT FOR THIS JOB	COMMON REQUIREMENTS FOR ENTRY INTO THIS TYPE OF WORK AND OTHER COMMENTS
Car Washers/Porters	$150 a week	2,000	Decrease	60	Hard	None	None	None	None	None	Not reported	Punctual, Thorough, (Tough, Back-breaking, Dirty, Cold Job)
Hikers/Porters												
Detailers/ for New & Used												
Towing:	*											
TIRE SERVICES	*											
Apprentice												
Journeyman												
Truck Specialists												
Off Road Specialists												
Installers (TBA)	*											
Greasers/Lube men	*											
New Car Inventorymen												
Driveway Salesman (TBA)	$150-225/week	50,000	Decrease	8,000	Easy-hard	HSGrad	None	None	JUT	15%	Theft, Addiction	Good at math, Able to be bonded, (Person to meet public)
MECHANIC/TECHNICIAN												
Apprentice												
Helper to Mech/Tech	*											
Mech/Tect Skdm/Line(ABCD)	$200 a week	2,000	Decrease	500	Very hard	HSGrad	$200	None	2 yrs	0-100%	Individual record	Physically able, Industrious, (Can tell in one job if OK)
Mech/Tech (CAQ)	$204 a week	4,000	Decrease	1,000	Very hard	HSGrad	$200	None	2 yrs	0-100%	Individual record	Physically able, Industrious, (Can tell in one job if OK)
Mech/Tech (Add)Spec.												
Journeyman/Tech(A&B)Sup												
Truck Mech/Tech												
SPECIALITIES												
Air Cond/Heat/Radiator	*											
Glass/Upholstery												
Transmissions												
Muffler/Exhaust	*											
Brakes	*											
Rustproof/Undercoat												
Alignments	*											
Chassis Repair & Frame												
BODY SHOP/TECHNICIAN												
Apprentice												
Body Shop Tech												
Asst to Body Shop Tech												
Painter Apprentice												
Asst to Painter												
Painter												
Service writer												
Service Manager	Not reported	6,000	Decrease	100	Hard	HS Equiv	None	Company	3 yrs	0-100%	Individual record	Personable, (Will go down w/ high costs & gas shortage)
Parts Helper/Stock Clerk												
Parts/Counterman												
Parts Supervisor/Mgr												
Machinists												

*Data collected October 1973
*If performed, may have been included under one of the other job duty titles

INFORMATION TO ACCOMPANY TABLE 6:

AFTERMARKET

General Information About the Business and the Associations Which Represent the Industry

A comprehensive study of the aftermarket is presented in the 1973 SERVICE JOB ANALYSIS by the Hunter Publishing Company. Even though the content is not specifically about the Chicago area it provides the broad base information about the needs of the different types of automotive businesses. The following associations represent some of the many types of products or services that support this large industry: Automotive Engine Rebuilder's Association, Automotive Wholesalers of Illinois, Automotive Service Industry Association, Illinois State Tire Dealer's Association, and the Automotive Electric Association. There are many others which should be contacted.

Kinds of Jobs Performed and Emphasis

As this industry is concerned most with the repair, accessory, and parts replacement aspects of the automotive business, much and most of the emphasis is on jobs that deal with countermen, stock clerks, parts supervisors, and inventorymen. Another important job is that of machinist. The need for persons trained in one or more of the 20 some machinist skills are really in demand. Many of the other jobs important to this business were included in the table for Independent Garages under the Specialties category.

Growth Outlook

Most of the persons interviewed did not foresee a large increase in sales, nor did they see a drop in production or in the demand for their products or services. Stock clerks and deliverymen were the two main jobs for which there was a mentioned need.

Training Facilities

The industry has many associations which support it. The training or entry-level tests which are provided to help select qualified applicants would be helpful to persons preparing and providing curriculum alternatives for the SAEPP.

General Information about Hiring Practices and Stated or Implied Attitudes Toward Hiring Persons with a Criminal Record

Persons interviewed did estimate that there would be some hesitancy in hiring individuals with criminal records. The very nature of the jobs was that the employee would be faced with many temptations, not only from the employee's own behavior, but often times from customers who would suggest that the employee cheat the company. Large and complicated inventories and the fact that the employee is often left alone with customers were the two main reasons given but another reason was that most of the countermen would have to have positive attitudes about the job and the public. Tests which can reveal the applicant's ability to recognize parts from pictures are available and are generally used in the personnel selection procedures of most companies.

Summary

This section of the market survey should be examined along with the Specialty jobs listed on the Independent Garage table for many of them overlap as far as employment needs.

TABLE 6: SUMMARY OF CHICAGO AREA AUTOMOTIVE MAINTENANCE LABOR MARKET INFORMATION: AFTERMARKET*

TITLE OF JOB AND/OR DUTIES	APPROXIMATE/ ESTIMATED STARTING SALARY	ESTIMATED JOBS IN THE CHICAGO AREA	INCREASE FOR THIS JOB IN THE NEXT FIVE YEARS	HOW OFTEN NEXT TIME FILL THIS JOB	EASY OR HARD TO FILL THIS JOB	EDUCATION REQUIREMENTS	TOOLS REQUIRED AND ESTIMATED COSTS	SPECIALIZED TRAINING NEEDED FOR THIS JOB	JOB EXPERIENCE NEEDED	PERCENT RESISTANT TO HIRE IF APPLICANT HAS RECORD	TYPE OF CRIME MOST SUSPECT FOR THIS JOB	COMMON REQUIREMENTS FOR ENTRY INTO THIS TYPE OF WORK AND OTHER COMMENTS
Car Washers/Porters	*											
Hikers/Porters												
Detailers for New & Used												
Towing												
TIRE SERVICES												
Apprentice	$3.50/hour	25	Same	10	Easy	HSG	None	OJT	90 day OJT	75%	Theft	(Ind. is left alone w/customer who often asks employee to cheat company)
Journeyman	$4.24/hour	475	Same	45	Very hard	HSG	None	90 day	Apprentice	75%	Theft	OJT by observ./dem. of equip & activ. Good health, (45 turnover)
Truck Specialists	$5.25/hour	50	Same	10	Very hard	HSG	None	Apprentice	90 day	75%	Theft	Dependable, No handicaps, Honest, OCCPSHE*
Off Road Specialists	$6.50/hour	25	Stay same	4	Hard	HSG	None	Apprentice	90 day	75%	Theft	Driver license, No handicap, (Outdoor work often necessary)
Installers (TBA)	*										Depends on individual	Physically able, No handicaps, Honest, Dependable, (May need to travel)
Armorers/Tube men	*											
New Car Inventorymen												
Driveway Salesmen (TBA)	*											
MECHANIC/TECHNICIAN												
Apprentice												
Helper to Mech/Tech												
Mech/Tech Skilled Line(MECH)												
Mech/Tech (CAD)												
Mech/Tech /ASE/Spec.												
Journeymen/Tech/ASE/Sup												
Truck Mech/Tech												
SPECIALITIES	**											(See Table for Independent Garages)
Air Cond/Heat/Radiator	*											
Glass/Upholstery	*											
Transmissions	*											
Muffler/Exhaust	*											
Brakes	*											
Rustproof/Undercoat	*											
Alignments												
Chassis Repair & Frame												
BODY SHOP/TECHNICIAN												
Apprentice												
Body Shop Tech												
Asst to Body Shop Tech												
Painter Apprentice												
Asst to Painter												
Painter												
Service writer												
Sheriff Manager												
Parts Helper/Stock Clerk	Not reported	3,500	Increase	350	Hard	HSG	None	None	Ind. test	10%	None	Punctual, Attitude, Perseverance, Passing score on parts & math test
Parts/Counterman	Not reported	4,000	Stay same	800	Hard	HS Equiv	None	Factory	OJT	Indiv	Individual	Math, Personal appearance, Industrious, Mature, Able to meet public
Parts Supervisor/Mgr	Not reported	500	Stay same	20	Very hard	HS Equiv +	None	Inside	OJT	50-100%	Record kept	Supervisory & record keeping skill, Inventory exp., Thorough, Honest
Machinists	$14,000/year +	2,000	Same	1,500	Very hard	HSG HS Eqv	None	In shop	1 year	50%	Total record kept	Mech skill, Precision, Safety, Thoroughness, Math ability

*Data collected October 1973
not performed, may have been included under one of the other job duty titles
**General concern for safety & equipment (OCPSHE)
***May have been included in information for Independent Garages

INFORMATION TO ACCOMPANY TABLE 7:

CHAIN STORES

General Information about the Business and the Associations Which Represent the Industry

From visits and interviews it was estimated that approximately 43 chain garages representing 4 different chain stores (i.e., Montgomery Ward, Sears, K-Mart and Penney's) were in operation in the Chicago area. At one time a specific garage at one store may have from 2 to 30 bays in operation. The service emphasis is on the sale and installation of the automotive products manufactured by, or for, the Chain company. Both union and non-union types of operations exist.

Kinds of Jobs Performed and Emphasis

Tire and lube services, parts installation, alignments and brake jobs are performed at chain-operated garages. All mechanical work concentrates on lighter C&D type of duties to include tune-ups, carburetor and brake replacement and adjustment. The two most important aspects of the Chain operation are the emphasis they placed on product/package sales and the employment of part-time personnel.

Growth Outlook

All of those interviewed see their operation growing; but as well, were more apt to see jobs as seasonal and part-time. It was learned that a bay represents approximately $70,000 to $75,000 worth of merchandise sales or service a year. By comparing that amount with the 1973 Service Job Analysis figure (Hunter Publishing, 1973, p. 60) for

dealers and individual repair shops, it could mean 1 to 2 mechanics would be needed now to support one-bay operation.

Training Facilities

Three of the four companies, Montgomery Ward, Sears, and Penny's made reference to company training programs and felt they were most adequate in preparing the person to meet the standards of the company.

General Information about Hiring Practices and Stated or Implied Attitudes Toward Hiring Persons with a Criminal Record

The interviewees did not reveal entry-level salary information nor their company's policy toward hiring ex-offenders. One of the persons interviewed did say that his company did not require (on paper) a high school diploma or its equivalent. They emphasized dependability and an ability to get along with others as important aspects of employability for all jobs. Public relations ability was seen by all as mandatory for service writer or manager jobs. All stated that actual hiring policy and decision would be made at a different level than the ones they represented. They felt that once there was a company representative to the ATC, questions about salary, policy and other requirements for employment could be answered more fully.

Summary

The most important aspect of the Chain operation is that it is expected to grow. The emphasis on parts and TBA sales and also the extensive employment of part-time personnel should be noted.

TABLE 7: SUMMARY OF CHICAGO AREA AUTOMOTIVE MAINTENANCE LABOR MARKET INFORMATION: CHAIN STORES*

TITLE OF JOB AND/OR DUTIES	APPROXIMATE/ ESTIMATED STARTING SALARY	ESTIMATED JOBS IN THE CHICAGO AREA	INCREASE FOR THIS JOB IN THE NEXT TWO YEARS	MAY OPEN NEXT TWO YEARS	EASY OR HARD TO FILL THIS JOB	EDUCATION REQUIREMENTS	TOOLS REQUIRED AND ESTIMATED COSTS	SPECIALIZED TRAINING NEEDED FOR THIS JOB	JOB EXPERIENCE NEEDED	PERCENT HESITANT TO HIRE IF APPLICANT HAS RECORD	TYPE OF CRIME MOST SUSPECT FOR THIS JOB	COMMON REQUIREMENTS FOR ENTRY INTO THIS TYPE OF WORK AND OTHER COMMENTS
Car Washers/Porters												
Hikers/Porters												
Detailers for New & Used												
Towing												
TIRE SERVICES												
Apprentice												
Journeyman	Not reported	105	Small inc	10	Hard	R & W	None	None	Yes	Not rpt	Not reported	Dependability
Truck Specialists												
Off Road Specialists												
Installers (TBA)	Not reported	135	Same	30	Easy	R & W	None	None	Will need	Not rpt	Not reported	Dependability (Also part-time help)
Greasers/lube man	Not reported	Unk	Same	Unk	Easy	HS Equiv	None	None	6 mos	Not rpt	Not reported	Not reported
New Car Inventoryman												
Driveway Salesman (TBA)	*											
MECHANIC/TECHNICIAN												
Apprentice												
Helper to Mech/Tech	Not reported	42	Little	10	Easy	HS Equiv	$175	Company	Yes	Not rpt	Not reported	Ability to get along, Dependable, (Part-time)
Mech/Tech McMa/Line(ABC)												
Mech/Tech (CAR)	Not reported	270	Little	50	Hard	HS Equiv	$175	Company	Yes	Not rpt	Not reported	Ability to get along w/others, Dependable, (Part-time)
Mech/Tech (AAB)Spec.												
Journeyman/Tech(AAB)Sup												
Truck Mech/Tech												
SPECIALITIES												
Air Cond/Heat/Radiator												
Glass/Upholstery												
Transmissions												
Muffler/Exhaust	*											
Brakes	*											
Rustproof/Undercoat												
Alignments	*											
Chassis Repair & Frame												
BODY SHOP/TECHNICIAN												
Apprentice												
Body Shop Tech												
Asst to Body Shop Tech												
Painter Apprentice												
Asst to Painter												
Painter												
Service Writer	Not reported	43	Unk	4	Unk	HS Equiv	None	Not rpt	Yes	Not rpt	Not reported	Public Relations Ability
Service Manager	Not reported	43	Unk	4	Unk	HS Equiv	None	Not rpt	Yes	Not rpt	Not reported	Public Relations Ability
Parts Helper/Stock Clerk	*											
Parts/Counterman	*											
Parts Supervisor/Mgr	*											
Machinists												

*Data collected October 1973
**If performed, may have been included under one of the other job duty titles

ASSESSMENT OF CLIENT NEEDS AND SERVICES

Basic to the development of a realistic vocational training program for prisoner rehabilitation is the identification of major non job-related knowledges and skills necessary to obtain and retain employment. These non job-related knowledges and skills are often not included in training programs for the disadvantaged. Thus, trainees may obtain a set of vocational skills but lack the marketing abilities necessary to apply those skills, the interpersonal abilities required to continue successfully in the employment of those skills, and the general educational abilities needed to progress to higher skill levels.

The purpose of this study was twofold: First, to identify the major non job-related knowledges and skills necessary to obtain and retain employment in the automotive trades; and second, to outline possible strategies to be used to provide these knowledges and skills to offenders during the course of a realistic vocational training program for prisoner rehabilitation.

Methodology

To determine the training needs for non job-related knowledges and skills among offenders, a preliminary questionnaire was constructed which was based upon descriptions of knowledge and skill deficiencies cited in recent HumRRO research and related vocational training literature. The questionnaires were sent to prison officials at Stateville and Pontiac penitentiaries, to placement personnel who had assisted ex-offenders in Illinois in finding jobs in the automotive trades and

to employers who had hired ex-offenders for jobs in the automotive trades. After the respondents had completed the questionnaire, each was interviewed by a member of the HumRRO staff to determine his reaction to the instrument and suggestions for improving it.

The data obtained from the user test were used to modify and revise the preliminary questionnaire into four separate instruments. Questionnaires were developed for prisoners, employment counselors, employers, and prison officials. Each questionnaire covered the four basic need areas: (1) literacy requirements -- abilities that are common to most jobs such as reading and performing basic mathematical computations; (2) employment seeking requirements -- abilities that are essential in finding employment such as participating in a job interview and recognizing personal strengths and weaknesses; (3) personal job requirements -- the ability to show proper behavior in a work environment, such as being prompt and coping with stressful work situations; and (4) interpersonal skill requirements -- abilities that are essential to both finding and maintaining employment, as well as to job advancement, such as participating as a member of a work team or accepting criticism.

The major differences among the questionnaires were the emphases placed on respective problem areas. Prisoners were asked what they felt was important for them to know or be able to do before they were released from prison to look for a job. Employment counselors were asked to note those problems which had arisen for ex-offenders during counseling sessions and while on the job. Employers checked those

problems which had arisen in their organizations when they had employed ex-offenders. Prison officials were asked to note those problems which they or others in the institution attempted to alleviate prior to the offender's release. In addition, employment counselors, employers, and prison officials were asked to describe the method(s) which they or their organizations use to alleviate any of the problems which they noted as having confronted the ex-offender.

The questionnaires were sent to the following groups: inmates at Pontiac Penitentiary who are enrolled in the Joliet Junior College Automotive Mechanics course; prison officials at Vienna Correctional Center, Menard Penitentiary and the Illinois State Farm at Vandalia; employment counselors at Operation Dare, as well as counselors in the state employment service; and, employers in the Chicago area who have hired ex-offenders. Employers were reached through the ATC and with the cooperation of the counselors at Operation Dare.

Results - Client Needs

Responses to the questionnaires for prisoners, employment counselors and employers are tabled in Appendix B and are summarized below by respondent group.

Prisoners. All of the prisoners responded that they needed to know "how to locate available training programs which will increase my value to my employer." This would seem to indicate a desire on the part of the inmates to continue their training in the automotive field upon release form the institution. Other areas which inmates deemed as important to know included: "how to fill out job application forms";

"how to talk about my prison experience"; "how to talk about my previous work experience"; "how to obtain public financial assistance"; and "how to budget money." The respondents were in near unanimous agreement concerning the kinds of things they needed to be able to do when they began to look for a job in the automotive trades. Included among these were: "read technical manuals related to the automotive trades"; "perform basic arithmetic computations necessary in the automotive trades"; "read diagrams and charts related to the automotive trades"; "read gauges and scales related to the automotive trades"; and, "accept criticism from supervisors and co-workers." Only slightly less important were being able to: "avoid physical and verbal disputes with supervisors and co-workers," and "communicate in writing."

Employment Counselors. This group of respondents was asked to describe the problems over which the ex-offender expressed concern, both during counseling sessions and while on the job. During counseling sessions ex-offenders have noted that they: "had problems getting credit"; "had problems obtaining public financial assistance"; "had problems paying for housing"; "had problems buying a car"; "had problems dealing with the police and/or other legal authorities"; and, "had problems avoiding situations which would lead to a commission of crimes or other offenses likely to lead to a return to prison."

When searching for a job in the automotive trades the ex-offenders, according to employment counselors, experienced the following problems: "had trouble finding out about possible job openings"; "arrived for job interviews inappropriately dressed"; "had trouble describing their

strengths and weaknesses"; "been qualified for a job but not owned the proper tools"; "had trouble filling out application forms"; "had trouble describing previous work experiences"; and, "arrived late for job interviews." The employment counselors also indicated that ex-offenders had been confronted with a variety of problems while working in the automotive trades; among these were: "been unable to accept criticism from supervisors and fellow workers"; "been unable to read diagrams and charts necessary for the job for which they were hired"; "been unable to communicate in writing"; "been unable to perform basic arithmetic computations and read gauges and scales necessary for the job for which they were hired"; "held up the work of other employees or caused them to do extra work because of tardiness or absence"; "been discriminated against by supervisors because of their race and/or prison record"; and, "had trouble socializing with fellow workers at coffee breaks, lunch, etc."

Employers. Those persons who had hired ex-offenders were asked to describe the kinds of problems which had arisen in their organizations. Among the problems mentioned most often were: "had trouble filling out application forms"; "had trouble describing their strengths and weaknesses"; "been qualified for a job but not owned the proper tools"; "had problems accepting criticism from supervisors and fellow workers"; "been unable to perform basic arithmetic computations necessary for the job for which they were hired"; "been habitually tardy for or absent from work"; "had trouble socializing with fellow workers at coffee breaks, lunch, etc."; and, "had problems working as a member of a team on particular jobs." Mentioned slightly less often were: "been unable

to read gauges and scales necessary for the job for which they were hired"; "been unable to communicate in writing"; "failed to call in when they would be tardy or absent"; "had problems following instructions from supervisors"; "been discriminated against by supervisors because of their race and/or prison record"; and, "been surly or disrespectful to supervisors."

Summary - Client Needs

The following problem areas were mentioned by a significant number of respondents from all three groups: how to fill out job application forms; being unable to perform basic arithmetic computations necessary in the automotive trades; being unable to read diagrams and charts related to the automotive trades; being unable to read gauges and scales related to the automotive trades; being unable to communicate in writing; and, being unable to accept criticism from supervisors and co-workers. Problem areas mentioned significantly by both employment counselors and employers included: having trouble describing their (inmates) strengths and weaknesses; being qualified for a job but not owning the proper tools; being habitually absent from work; leaving work frequently to take care of personal business; holding up the work of other employees because of tardiness or absence; being discriminated against by supervisors because of their race and/or prison record; and, having trouble socializing with fellow workers at coffee breaks, lunch, etc.

Employment counselors and employers were asked to indicate those problem areas which they considered to be the most serious and which

usually lead to termination of employment for the ex-offender if not corrected. Although many of these areas are not mentioned often as being problems for the ex-offender, when they are mentioned they are considered to be most serious and therefore a major stumbling block for those individuals having the problem. Those mentioned most frequently by employment counselors included: a re-exposure to drugs and/or alcohol upon release; determining how to get from home to work by public transportation or other forms of transportation; communicating with persons who are in a position to help them; being habitually absent from work; leaving work frequently to take care of personal business; and, being unable to plan for the future or understand the need to so plan. Areas mentioned most frequently by employers included: being unable to read diagrams and charts necessary for the job for which they were hired; being unable to communicate in writing; leaving work frequently to take care of personal business; holding up the work of other employees because of tardiness or absence; and, being unable to accept criticism from supervisors.

Not all problem areas mentioned by the respondents are discussed in the preceding paragraphs and their absence should not cause them to be ignored during the development of a training program. Even those areas mentioned by only one respondent need to be considered by training managers for their relevance in any realistic vocational training program.

Results - Client Services

Responses to the questionnaire for prison officials are tabled in Appendix C and are summarized below.

Prison officials were asked to indicate the problem areas which they and/or others in the institution attempted to alleviate prior to the offender's release. Of the 53 problem areas listed: 81 percent were mentioned by at least 10 of the 19 respondents as being addressed by the prison administration. Forty-two percent were indicated by at least 15 of the 19 respondents as being addressed by the prison. Those areas not covered in any formal sense by the prison administration included: understanding rental and lease agreements; dealing with discrimination on the part of landlords or rental agents; getting necessary repairs made in housing; buying a car; obtaining credit; and, finding out about and using available health services.

Twelve of the problem areas mentioned in the preceding section (Summary - Client Needs) as being ones of major concern to the three respondent groups receive attention in some form within the prison system (the problem concerning "not owning the proper tools" was omitted from the questionnaire for prison officials). However, only eight respondents indicated that "take care of personal business during non-working hours" was emphasized in a training program.

Prison officials also were asked to indicate the problem areas they felt to be the most serious and which, if not corrected, usually led to termination of employment for the ex-offender. Those areas mentioned most frequently included: arrive on time for work; under-

stand the need to be present for work; understand the importance of calling when going to be tardy or absent from work; follow instructions from supervisors and/or co-workers; accept criticism from supervisors and/or co-workers; avoid verbal disputes with supervisors and/or co-workers; budget their money; plan for the future vocationally, socially, etc.; deal with a re-exposure to drugs and/or alcohol; and, communicate with persons who are in a position to help them. Half of the problem areas considered by employment counselors and employers as being the most serious in nature are also considered so by prison officials.

Summary - Client Services

The results of the survey of prison officials indicate that approximately 90 percent of the problem areas mentioned in the questionnaire are attended to in some manner within the institution. Some, of course, are taken care of informally; most, however, are covered formally during planned training sessions designed specifically to alleviate particular problem areas. These methods include: a recently implemented Career Development program which prepares the trainee to deal with certain predictable coping skill problems; counseling, both individually and in groups, for problems related to drug and/or alcohol abuse, job discrimination based on race and/or prison record, social readjustment and behavioral problems; and, agency referral for such problems as housing, financial assistance and employment opportunities.

Employment counselors and employers also indicated various methods which they used to alleviate problems which arose for the ex-offender either during counseling sessions or as an employee. The employment

counselors use individual counseling sessions, referrals to various agencies, and tutoring in the basic math and verbal skills. Employers indicated that they often provide their own training programs, often bought tools for the employees and are reimbursed through payroll deductions, and provide counseling for ex-offenders who are having trouble readjusting to their new environment.

TASK ANALYSIS - AUTOMOTIVE MECHANIC

To develop a multi-level picture of the auto mechanic's job and tasks for each job level, HumRRO consulted recently published repair manuals from several major manufacturers and a recent survey (8) of the auto mechanic's job conducted by Ohio State University. These jobs and tasks were reviewed by members of the Automotive Trades Council and by two highly qualified instructors from Joliet Junior College who teach auto mechanics at Pontiac Correctional Center.

The review by the ATC was disappointing. Only four of the some forty members returned specific comments and suggestions to HumRRO. Nevertheless, these four sets of recommendations were helpful and have been incorporated in the revised task lists.

HumRRO found the review by the Pontiac instructors especially useful. The nature of their comments and suggestions is described in detail later in the report.

Job Levels

Below is a description of each of the four levels of jobs included in the analysis.

I. Mechanic's Helper

The incumbent is capable of intermediate-level removal, adjustment, and replacement of parts and components such as minor engine tuning, bearing cleaning and packing, headlight alignment, etc. This kind of work is generally performed in a garage bay or on a hydraulic lift.

II. Apprentice Mechanic

The incumbent is capable of performing all the tasks included in the job of Mechanic's Helper. In addition, the incumbent is able to demonstrate a command of certain basic theory and principles of operation for various automobile systems such as the engine, brakes, drive train, etc.

It is expected that this additional knowledge will equip the incumbent to rapidly progress from one job level to the next.

III. Automotive Specialist

The incumbent is capable of removal, adjustment, replacement, and rebuilding of complex parts and components related to one or several specialty areas. For example, the incumbent might specialize in the rebuilding of engines or in the repair of complicated automatic transmissions. An automotive specialist, of course, is capable of performing all the tasks performed by a mechanic's helper or apprentice mechanic.

IV. Master Mechanic

The incumbent is capable of removal, adjustment, replacement, and rebuilding of complex parts and components related to most specialty areas. Such an individual would be a highly qualified mechanic and would, of course, require extensive training.

Task Outlines

This section provides an outline of the major headings for tasks included in both the Mechanic's Helper/Apprentice Mechanic job and the Automotive Specialist job.

Mechanic's Helper/Apprentice Mechanic

I. Chassis

- A. Hoisting, Jacking and Towing
- B. Wheels and Tires
- C. Brakes
- D. Steering
- E. Suspension
- F. Axle and Drive Shaft
- G. Clutch and Manual Transmission
- H. Automatic Transmission

II. Engine

- A. Gas Engine
- B. Ignition System
- C. Fuel System
- D. Exhaust System
- E. Cooling System
- F. Starting System

III. Electrical System

- A. Charging System
- B. Lighting System

Automotive Specialist

I. Air Conditioning/Heating/Radiator

II. Alignment

III. Brakes

IV. Chassis Repair

V. Electrical

VI. Engine

VII. Transmission

Task Lists and Knowledge Objectives

Included in Appendix D is a list of tasks for both the Mechanic's Helper/Apprentice Mechanic job and the Automotive Specialist job. In addition, a list of sample knowledge objectives for the job of Apprentice Mechanic has been included.

To get a sense of the amount of time required to teach these tasks, the two Joliet Junior College instructors mentioned above rated each task according to the following code:

Given the current program at Pontiac Correctional Center

1 - Ex-offender should be able to master this task after one semester of training

2 - Ex-offender should be able to master this task within four semesters of training

3 - This task is probably too sophisticated for an ex-offender to be able to master within four semesters of training

For the job of Mechanic's Helper/Apprentice Mechanic, the two mechanics also indicated the amount of time (e.g., 0.6 hrs.) it should take a graduate of the Joliet Junior College course at Pontiac to complete each task for this job. Since automobiles vary considerably in the complexity of their components, these standards indicate only average times. For some tasks, of course, it was impossible to develop even average standards. No time standards are indicated for the specialty tasks because of their complexity. The primary emphasis in training for such tasks should be on accuracy.

ASSESSMENT OF EXISTING TRAINING SERVICES

The purpose of this section of the report is to describe a series of training programs (including two prison training programs) in the greater Chicago area which may be in a position to provide training in the area of auto mechanics to ex-offenders from the Illinois State prison system. The report is organized around each of the nine programs reviewed; for some programs, rather lengthy descriptions are provided; for others, only a few sentences have been included. For these latter programs, it was either impossible for HumRRO to obtain complete information concerning the nature of the programs or little or no evidence of cooperation with the ATC and/or the Illinois Law Enforcement Commission was forthcoming from the persons responsible for these programs.

Joliet Junior College System

This section of the report describes three aspects of the Joliet Junior College System that are currently related to the training of ex-offenders in the auto mechanics field. In addition, several recommendations are included regarding ways in which apprenticeship programs provided by the college in areas outside the field of auto mechanics may eventually be tied to the prison system.

Stateville

HumRRO's impression of the automotive training program at Stateville is mixed. On one hand this program has a very capable instructor[1]

[1] Mr. George Rowlan

from the Joliet Junior College instructional staff. On the other hand, this instructor's effectiveness is hampered by a number of constraints:

1) Most of the inmates who enter the auto mechanics training program have little or no experience in the repair of automobiles.

2) The constant transferring in and out of inmates makes it next to impossible to sustain training cohorts in which students are all working at approximately the same level.

3) The equipment available to the instructor appears to be very limited and out of date making the "hands-on" portion of his training extremely difficult.

4) As in most training programs for disadvantaged adults, there is little or no integration between the basic education and vocational training components of the instructional system. The instructor, for example, often finds himself in the position of having to teach reading and math in order to convey certain basic principles to the students.

In summary, the auto mechanics training program at Stateville has a number of drawbacks which the instructor, the one positive aspect of the program, is hard put to overcome.

Pontiac

Although confronted with many of the same problems as Stateville, the automotive training program at Pontiac Correctional Center is very likely the best of its kind in the state. The quality of the program is due largely to two superior instructors[1] who are both experienced mechanics as well as being experienced teachers. Despite the quality of these two gentlemen, however, there are a number of steps which should be taken to help them improve what is already a quality program:

[1] Mr. John Kidd and Mr. James Warren

1) As at Stateville, the Pontiac automotive training program is hampered by the lack of integration between the teaching of reading and math skills and the vocational training programs. This problem is perhaps more pronounced at Pontiac than at Stateville because of the relative age level of the Pontiac prison population. At Stateville, many inmates are over 30 and have been, or are currently, engaged in self-help adult education programs designed to upgrade their reading and math skills. Pontiac, however, is populated largely with inmates under 25, many of whome are recent high school dropouts and who have not had the benefit of such adult education programs. The resulting problem, of course, is that the instructors often have to interrupt their training to teach inmates basic reading and math skills.

2) The scheduling of vocational training at Pontiac appears to be a particularly bad problem. Inmates at Pontiac are allowed only 20 hours of vocational instruction per week. However, this time is often reduced even more because inmates now go to the noon meal at 12:30 instead of 11:30. When inmates return from lunch at 1:30, they have only an hour before they are required to return to their cells at 2:30. Not surprisingly, this hour is spent unprofitably in clean-up activities, rap sessions, and other activities which anticipate the return to the cells.

3) One of the major problems that the instructors face is lack of equipment. Although the shop has some excellent diagnostic equipment, there is a severe lack of adequate tools to allow inmates to work as a group on transmissions, engines, brake systems, etc. Since it is next to impossible for inmates to road test vehicles they work on, a dynamometer would be an especially useful addition to the training program.

Joliet Junior College

This section of the report is intended to describe certain other problems which Joliet Junior College faces as an institution in supporting prison training programs. An attempt will also be made to outline some future possibilities for an interface between the college and the prisons in vocational areas which extend beyond the job of auto

mechanic. The following are some problems faced by the college in dealing with the prisons:

1) From conversations with Dr. Elmer Wright, it is apparent that a major problem faced by the college in its programs at Stateville and Pontiac is the "creaming" of model prisoners from these institutions. Apparently, the policy of the Department of Corrections is to remove from Pontiac and Stateville, as rapidly as possible, those prisoners who show progress in rehabilitation to lesser security institutions. Despite the reasonableness of this policy, this "creaming" causes problems for the vocational programs at these two institutions. More capable, rapidly progressing students are constantly being removed from training programs and replaced by problematical, less capable students.

2) As indicated above, the amount of instructional time allocated to vocational training is a constant impediment to the success of these programs. HumRRO sees little reason why the current 20 hours of instruction provided in the prison training program could not easily be expanded to 40 hours.

3) Not only for Pontiac, but for all the prison vocational training programs in which the college is engaged, lack of adequate equipment is a major problem. Apparently the Department of Vocational and Technical Education no longer buys equipment for such soft money programs because of problems related to inventory and storage. Hopefully, with the impetus of the Automotive Trades Council, industries in the greater Chicago area and other parts of Illinois will begin to see the benefit of contributing large amounts of expensive equipment to the prison training programs.

Despite these problems, there are a number of ways in which the college is and will be in a position to contribute significantly to the prison rehabilitation effort:

1) Very shortly the college will be opening up an auto body repair shop at Stateville. On the basis of a recent market survey conducted by HumRRO in the Chicago area, auto body repair is a high demand occupation. This new program, therefore, should provide a very useful addition to the courses offered by the college in the automotive area.

2) Joliet Junior College has a very impressive automotive training shop with some excellent instructors and first-rate equipment. There are at least two ways in which the shop could be used to enhance the college's ex-offender program:

   a) Equipment not currently being used by the college at its own training shop is sorely needed by the programs at Stateville and Pontiac;

   b) For those ex-offenders who live in and around the Joliet area, there seems to be little reason why some sort of post-release automotive training could not be provided to ex-offenders from Stateville and possibly even Pontiac.

3) Currently there are four one-year apprentice programs being conducted by the college in the following areas: cement finishing, iron work, electrical welding and metal fabricating, and horticulture. Although these areas are rather far removed from the job of auto mechanic, HumRRO has received indication from Mr. Maynard Boudreau, Dean of Career Education at the college, that there would be no problem in enrolling ex-offenders from Stateville in these apprenticeship programs, either on a post-release basis or possibly even during the incarceration period. Since the above four areas are all high demand occupations, it would seem worthwhile for the Automotive Trades Council and CMSU to at least explore the possibility of enrolling ex-offenders in these programs.

4) Under the direction of Dean Boudreau, the college is currently exploring a computer-based occupational matching system called CIVIS (Computerized Vocational Information System). This system would identify particular student abilities, interests, and vocational skills and match a student profile across these three areas with available and projected job opportunities in the Joliet area. Obviously, such a system has interesting implications, both as a means of placing ex-offenders in jobs in the greater Joliet area and as a possible idea to be considered by the ATC for the placement of ex-offenders. For example, it may be well worthwhile for the ATC to consider a similar kind of computer-based clearinghouse in the Chicago area in which the vocational skills, abilities, and interests of about to be released ex-offenders could be matched with available and projected job opportunities in the automotive field in the greater Chicago area.

In summary, despite some current problems in running its prison programs, there is little doubt that the college is providing a very useful service to the Illinois prison community. More importantly, however, is the very real potential for additional ways in which the college could contribute to the vocational training and placement of ex-offenders.

Kennedy King College

Certainly one of the best auto mechanics programs that HumRRO has assessed is the one run at Kennedy King College under the direction of Mr. Herman Bryant. In addition to Mr. Bryant, Kennedy King's program has a number of points which recommend it strongly:

1) The auto mechanics program appears to incorporate most of the latest principles in instructional design. It includes performance-based objectives and tests in the areas of engine tune-up, transmission service, chassis service, auto body service, troubleshooting, garage and service station management, diagnostic equipment operation, automotive air conditioning, heavy duty truck engine service, Detroit diesel engine service, Cummins diesel engine service, heavy duty truck transmission and suspension systems, electricity, current automotive developments, and engine performance. One of the best features of this instructional system is its very tight management. For example, at any point in time Dr. Bryant can immediately describe the progress (i.e., knowledge and performance test scores) of each of his students in each area of this program.

2) The physical facilities and equipment for the program appear to be more than adequate for the number of students served. A recent addition to the shop is a new dynamometer which allows students to rapidly simulate a road test of the repairs they have made on a vehicle.

3) In addition to Mr. Bryant, the college appears to have a very capable instructional staff for the automotive technology program.

4) Unlike the prisons' programs reviewed by HumRRO, Kennedy King appears to have strongly integrated its vocational training programs with its basic skills courses (i.e., reading and math). Each student entering the college is tested on his reading and math skills and assigned to remedial courses if his scores are below a certain level. In addition, if it is apparent that a student is having trouble in a given vocational course, he is strongly encouraged to go to the Resource Skill Center where he can receive an individually prescribed remedial program in the areas in which he is having trouble.

5) Mr. Bryant claims to have an excellent rapport with members of local industry with regard to placement of Kennedy King students in jobs in the general automotive field. To help facilitate placement, Mr. Bryant has formed an advisory committee of representatives of local industry with whom he meets on a regular basis to consider job openings for Kennedy King student who might be qualified for these openings.

6) Largely through the efforts of Mr. John Kidd, six ex-offenders from the Illinois State Prison System have attended Kennedy King and been placed in high paying auto mechanics jobs. A very positive aspect of this undertaking is that Mr. Bryant has been able to maintain the confidentiality of each ex-offender's past so that he has been able to pass through the college as "just another student."

7) One of the very strong points of the automotive technology curriculum is that it includes courses called "field experience" in which students receive credit for a semester long period of employment on a job closely related to their course work. These courses not only provide the student with "real world" work experience in a potential career field, but also provide him with an excellent opportunity for job placement. In other words, the field experience course gives the student an opportunity to get to know the job and the organization, and it gives the employer an opportunity to see the student perform under actual work conditions.

Private Sector Programs

This section of the report includes an assessment of four programs run by major manufacturers and a very brief assessment of union training programs.

Volkswagen

In December of 1973 HumRRO made an extensive tour of the Volkswagen Auto Mechanics Training Program at Deerfield, Illinois. Although the program was impressive in terms of its equipment and type of management (training between 140 and 180 apprentice mechanics per year) there appears little or no chance for a cooperative training effort between Volkswagen and the Illinois State Prisons. Mr. Peter Schander expressed reservations about whether or not members of the ATC would be willing to hire fully trained ex-offenders, much less participate in the training of relatively inexperienced ex-offenders. Given the current energy crisis and the increase in purchase of smaller automobiles, this is a most unfortunate attitude.

Ford Motor Company

The following observations on the possible cooperation between Ford and the Illinois prisons in the training of ex-offenders was made on the basis of a conversation with Mr. Robert Harnar, District Public Relations Officer for Ford Motor Company:

1) In the Chicago area Ford runs a very small entry-level training program for mechanics turning out only 12 students per year. Since these students must be exceptional for a Ford dealer to sponsor their training, it is highly unlikely that ex-offenders with only basic mechanic skills

would have a chance of even being considered for this program. Even if the program was less selective, the small number of students it services would make only a small "dent" in the post-release problem.

2) In Mr. Harnar's opinion there are very few training programs in the Chicago area which cater to inexperienced mechanics. Ford, for example, devotes most of its training efforts to the upgrading of seasoned mechanics employed by Ford dealers.

3) Although Mr. Harnar was pessimistic about the possibilities of post-release training of ex-offenders at Ford and in other programs in the Chicago area, he did express the willingness of Ford to donate equipment and instructors to prison training programs. Since both instructors and equipment are in short supply in the prison programs, it would seem very worthwhile for the ATC to pursue this possibility with Ford.

Chrysler Corporation

Without a doubt the most enthusiastic representative from the private sector with regard to the training of ex-offenders is Mr. Desmond Egan, Technical Advisor in charge of recruitment and selection for Chrysler's mechanic's training program at Elk Grove Village, Illinois. Mr. Egan has told HumRRO that Chrysler Corporation is willing to cooperate in every way possible in the training of ex-offenders.

Chrysler's school offers week-long courses in a variety of automotive repair areas free of charge to students and student-sponsors whether or not the student is eventually employed by a representative of Chrysler. For example, Avis Rent-A-Car and independent gas stations often send students to this school free of charge. Chrysler, of course, does not pay for subsistence wages and lodging for students. However, there are probably a number of sources of public funds which could be

used to cover these expenses for ex-offenders interested in taking courses at the Chrysler school.

As might be expected, the school facilities are spacious and well equipped and run by a first-rate instructional staff. Since Mr. Egan is currently a member of the ATC there is little question that Chrysler can make a substantial contribution to the post-release training of ex-offenders in the field of auto mechanics.

Union Apprenticeship Programs

HumRRO was unable to interview Mr. Donald Gustafson, President and Business Manager of Automobile Mechanics Local 701 in Chicago regarding union apprenticeship programs. Although it is premature to judge these programs without having talked to Mr. Gustafson or some other representative of the union, the consensus of most ATC members whom HumRRO has interviewed is that the union would tend to act as an impediment or determent rather than a facilitator of the flow of ex-offenders into the occupation of auto mechanic in and around the greater Chicago area. It is, of course, strongly hoped that this is not the union's attitude and that some form of cooperative effort can be established between the prison training programs and union hiring and training of ex-offenders.

THE CURRICULUM

The purpose of this section of the report is to provide a description of the SAEPP curriculum and the functions which the Automotive Trades Council (ATC), the instructional staffs of the Illinois prisons, and outside contractors will need to perform in order to develop and implement this curriculum.

Location

As mentioned earlier, it is intended that the SAEPP Curriculum will eventually be implemented in all the adult male correctional institutions in Illinois. However, in the early stages of the development of the curriculum, considerable care should be given to the choice of the location for testing. Needless to say, a prison is a difficult place to conduct an educational or training activity because of the attention which prison administrators are forced to give to issues of security, custody, and control. It is, therefore, paramount that the new curriculum be introduced in as receptive and supportive an atmosphere as possible. Recent discussions between HumRRO and the Illinois Law Enforcement Commission indicate that Pontiac Correctional Center may be the site for the development and pilot testing of the curriculum. Although Ponitac is a maximum security prison, HumRRO strongly endorses the choice of this site because of the high quality of the automotive training program which is currently in operation there. A successfully implemented automotive curriculum at Pontiac will serve as a training model not only for the rest of Illinois, but also for all state and federal prisons.

Description of SAEPP Curriculum

The figure on page 80 is a schematic drawing of the basic components of the SAEPP Curriculum and how they are related to one another. Basically, the curriculum is an attempt to provide simultaneously for several different kinds of training required for the ex-offender if he is to be expected to obtain, hold, and advance in a job upon release from prison. The remainder of this section contains a description of the functions of each of these components and examples of elements of the components.

Selection

The purpose of selection, of course, is to choose those inmates among the available pool who have the highest probability of finishing the program successfully. The following are three sets of criteria which might be used to select trainees for the curriculum:

1) Expressed Interest. Certainly, for any prison training program, the interest and enthusiasm which the inmate expresses in the program should be a prime consideration in whether or not he is admitted to that program. Especially in the early stages of development of the SAEPP Curriculum, it is important to select trainees who are genuinely enthusiastic about the opportunities which the training can offer them.

2) Evidence of Past Interest in Auto Mechanics. In addition to the enthusiasm which a trainee expresses about entering training, some evidence of the inmate's past interest in auto mechanics will likely enhance the probability that he will complete the program successfully. For example, an inmate who expresses interest in entering the program because of actual work experience as a mechanic is probably a "better bet" than an inmate who has never worked on cars but "just knows" he would like the training.

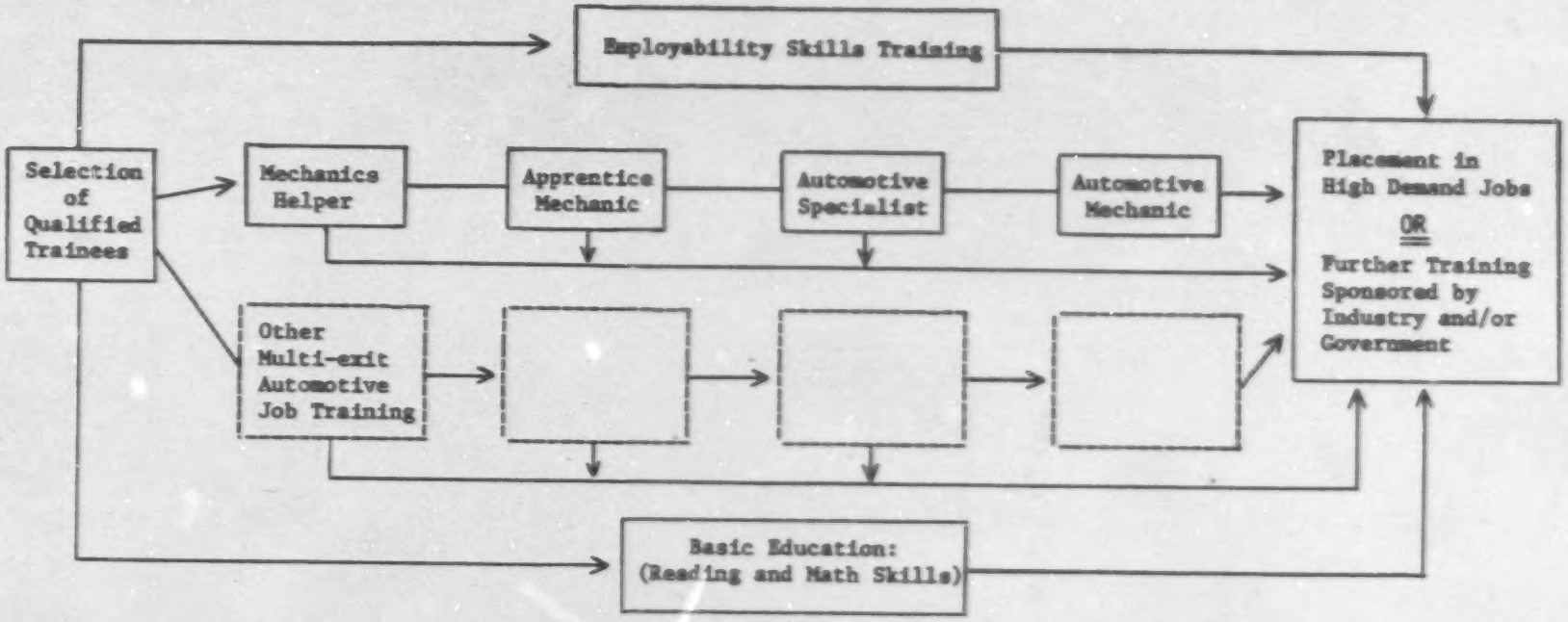

Figure 2. SAEPP Curriculum

3) Amount of Time Remaining to Serve. Disregarding the above two criteria, the issue of whether or not to include only "short timers" in a vocational prison training is problematical. On the one hand, prisoners with 18 months or less time to serve have a much more immediate need for training than do prisoners with long terms to serve. On the other hand, a good training program is something from which all inmates, regardless of amount of time to serve, can derive a great deal of benefit. However, since the SAEPP Training Program will always be limited in the number of inmates it can serve, HumRRO feels that inmates with 18 months or less should be given priority in selection because of their pressing needs to prepare for release.

Vocational Training Component

Vocational training in the automotive trades is the core of the SAEPP Curriculum. Based on the task analysis described earlier, the progression of jobs for which initial training would be provided includes the following:

1) Mechanic's Helper: capable of intermediate-level removal, adjustment and replacement of parts and components such as minor engine tuning, bearing cleaning and packing, headlight alignment, etc.

2) Apprentice Mechanic: capable of performing all tasks performed by the Mechanic's Helper. In addition, the Apprentice Mechanic is well grounded in the theory of automechanics and is well suited for more advanced training.

3) Automotive Specialist: capable of removal, adjustment, replacement and rebuilding of complex parts and components related to one or several task specialties within one or several major task groups. For example, such an individual might specialize in the rebuilding of engines or in the repair of complicated automatic transmissions. An Automotive Specialist, of course, would be capable of performing all the tasks performed by an Apprentice Mechanic.

4) Automotive Mechanic: capable of removal, adjustment, replacement and rebuilding of complex parts and components related to most of the task specialties within most of the major task groups. Such an individual

would be highly qualified in each of the three major areas and would, of course, require extensive training.

As indicated in the schematic, a trainee may exit from the program after demonstrating satisfactory performance of the tasks required of any of these four jobs. This aspect of the program will allow inmates with relatively short sentences to be trained rapidly for the tasks of the mechanic's helper job (or possibly those of the Apprentice Mechanic) and to exit from prison with a "marketable" set of skills. This multi-exit approach to training is in contrast to the current automotive training provided by Joliet Junior College which, although of high quality, requires a minimum of two years to complete.

Notice that space has been provided in the schematic for training in additional jobs in the automotive field.

Possible Module Format for Vocational Training Component

From the extensive list of tasks which comprise the above four jobs, it is apparent that providing training to inexperienced inmates to cover each of these jobs would be a very large enterprise. Clearly, a carefully designed highly organized system will be required to efficiently train inmates to perform competently on these jobs. In the remainder of this sub-section, a format for teaching inmates the tasks for these jobs will be described and an example of a specific module will be provided.

For the sake of exposition, assume that major effort is being devoted to that portion of the SAEPP Curriculum which will prepare inmates to perform the tasks listed under the jobs of Mechanic's Helper and Apprentice Mechanic. From Tables 8 - 10 , the reader

will see that these jobs have been divided into three major systems: the chassis system, the engine system, and the electrical system. For each of these systems, subsystems called tracks have been defined. For example, the Chassis System (shown in Table 8) is composed of seven tracks: (1) Hoisting, Jacking, and Towing; (2) Wheels and Tires; (3) Brakes; (4) Steering; (5) Suspension; (6) Axle and Drive Shaft; and, (7) Transmission. For each track, modules, which correspond to tasks, have been defined and displayed in increasing order of difficulty. For example, the track called "Wheels and Tires" under the Chassis System begins with the simple module called "Check Tire Air Pressure" and ends with the module called "Adjust Torsion Bars."

More will be said later in the report concerning the way in which the module format displayed in Tables 8 - 10 can be used to organize instruction. First, however, an explanation of the essential elements of a module along with specific examples of each element should be useful:

1) Statement of Instructional Objectives for the Module. The learning or instructional objectives for a module are extremely important. They provide a focus for the development of all materials and techniques included in the module as well as a basis for determining whether or not a student is able to perform the task represented by the module after he has completed instruction.

   As an example, assume that the track is "Engine" and that the module is "Perform Compression Test." The following are a list of possible instructional objectives[1] for this module:

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[1] These objectives are based on a similar module developed by Mr. Herman Bryant of Kennedy King College.

TABLE 8

TABLE 10

ELECTRICAL MODULES FOR LEVELS I & II

CHARGING SYSTEM	LIGHTING SYSTEM
TEST SPARK PLUG WIRES WITH OHMETER	REMOVE AND REPLACE TURNSIGNAL OR TURN UNIT
REMOVE AND REPLACE SPARK PLUG WIRES	REMOVE AND REPLACE FLASHER
TEST SPARK PLUG WIRES ON SCOPE	ADJUST BRAKE LIGHT SWITCH
ADJUST DRIVE BELT TEN-SION	REMOVE AND REPLACE BRAKE LIGHT SWITCH
CHECK DRIVE BELT TEN-SION	REMOVE AND REPLACE BACKUP LIGHT SWITCH
RECHARGE BATTERY	ADJUST HEADLIGHTS
CHECK BAT-TERY CHARGE	TEST SEALED BEAM
ADD BATTERY FLUID TO PROPER LEVEL	REMOVE AND REPLACE SEALED BEAM
TIGHTEN OR REPLACE BATTERY CABLES	TEST BULBS VISUALLY
CHECK BAT-TERY CABLES FOR LOOSE-NESS AND/ OR CORROSION	REMOVE AND REPLACE ALL BULBS
CHECK BAT-TERY FLUID LEVEL	

"Upon completion of this module, when instructed to perform an engine compression test, the student will:

a) Remove any foreign particles from around the spark plugs using compressed air and loosen all spark plugs one turn.

b) Crank engine over to blow out loosened carbon from around the plug threads.

c) Remove the air cleaner and block the throttle and choke plates in their wide open positions.

d) Insert the compression gauge into the spark plug hole, holding it firmly while the engine is cranked through four or five revolutions to obtain the highest possible reading.

e) Check and record readings and note variations of more than twenty pounds.

f) Add approximately one tablespoon of oil to each cylinder just prior to making its reading. Record results.

2) Performance Test. Each module requires a systematic method for determining whether or not the student can perform a particular task after he has completed a module. Like the paper-and-pencil tests traditionally used to measure achievement in education and training, such "performance tests" are administered under carefully controlled conditions where each student is given the same set of instructions and the same opportunity to respond to the test as are his peers. Unlike these traditional tests, however, performance tests are usually administered on an individual basis, they usually require fairly expensive equipment (in this case an automobile engine), and they almost require the student to respond to the test situation by performing a gross psychomotor task rather than by checking or writing answers to test items.

The instructional objectives for a module provide the "blue print" around which the performance test is developed. For example, the above list of objectives would likely form the basis for a rating sheet used by an instructor to test a student's ability to perform an engine compression test.

In developing the SAEPP curriculum for Pontiac Correctional Center, it will be necessary to develop a short, easily administered performance test for each of the modules listed in Tables 8 - 10. Since all the modules in these tables are comprised of very specific and limited sets of behaviors, these performance tests should be easy to construct. An excellent guide for the development of simple performance tests can be found in R. F. Mager's Preparing Instructional Objectives (9).

3) Instructional Content. Each module ought to include the following procedures in order to prepare students to successfully complete the performance test administered at the end of the module:

   a) General description of the task covered in the module and the purpose for performing the task. This description could be made by an instructor to a student or group of students. However, a more efficient, standardized method would be to put the description on audio tape, videotape, on film, or as part of a slide show. Such an approach would allow instructors to devote more time to individual student problems and would allow students more flexibility in choosing an appropriate time to take the module.

   b) Exposition of basic theory associated with task. Although often peripheral to the specific behaviors required of a student on a performance test at the end of a module, the explanation of the theory involved in the performance of a task often provides students with additional insight and motivation regarding future performance of the task. For example, if a student understands why full compression in each cylinder has an important effect on the operating efficiency and life of an engine, he is more likely to view the compression test as a serious task rather than just a set of procedures he must carry out under the watchful eye of an instructor.

   c) Step-by-step description of task procedures. This step in the instructional process is, of course, very important. Because of its importance, the description is probably best made through some audio-visual medium which can be thoroughly tested and revised for its effectiveness in conveying the task procedures to sample

members of the training population. For example, a film could be made of a mechanic performing each of the steps involved in a compression test where the mechanic would stop after each step, explain exactly what he had done, and why he had done it. The film could be tested and revised until most inmates who had seen the film were able to complete the performance test successfully.

d) Opportunity to practice the task in the presence of an instructor. Central to the learning of any task is the opportunity to practice performance of the task until the student feels he has achieved a satisfactory level of mastery. In the early stages of practice, it is important that in instructor observe the student and give him "feedback" on what he is doing properly as well as on what he is doing incorrectly. Once the student feels he has mastered the task completely, he should, as soon as possible, be permitted to take the performance test. If he successfully completes the test, he should be immediately informed that he has completed this module and is free to move on to another. If he fails the test, he should be informed of the specific errors he made and should be encouraged to practice those aspects of the task so that he can be tested again as soon as possible.

Management of the Vocational Training Component

As indicated in the previous section, the vocational training component of the curriculum would emphasize performance-based, self-paced training. Given that each module in such a system is carefully designed and developed according to the format described above, the primary job of the curriculum instructional staff becomes one of managing the curriculum. That is, the instructor's job becomes one of answering student questions, providing feedback to students during practice sessions, administering performance tests, keeping accurate records of student progress through the modules, and keeping students

informed of their progress. Relatively little of the instructor's time is devoted to preparation of lectures, planning of exercises, and other such activities which take time away from students and which can better be performed by qualified curriculum development personnel.

In order to make clear the method by which instruction might proceed at Pontiac once the modules specified in Tables 8 - 10 are developed, an example of how one inmate could progress through the curriculum will be provided.

Assume that John Bradford, who has less than six months to serve, has entered the program. John has had some experience in the automotive field because he worked as a gas station attendent just prior to entering prison. He also claims to have spent a lot of his leisure time in high school working on his own car and those of his friends.

After talking to John about his background for a while, an instructor takes him over to a bulletin board where all the modules included in Tables 8 - 10 are displayed. He explains to John that these are the tasks he'll be expected to perform in order to be certified by the program as a Mechanic's Helper. After looking at the bulletin board for a few minutes, John indicates that he feels he already knows how to do a lot of the tasks represented by the modules and that a lot of the instruction would be unnecessary for him. The instructor agrees and asks John to point out those modules that he feels very confident about. Assume that the modules circled in Tables 11 - 13 are the ones on which John feels he can demonstrate mastery.

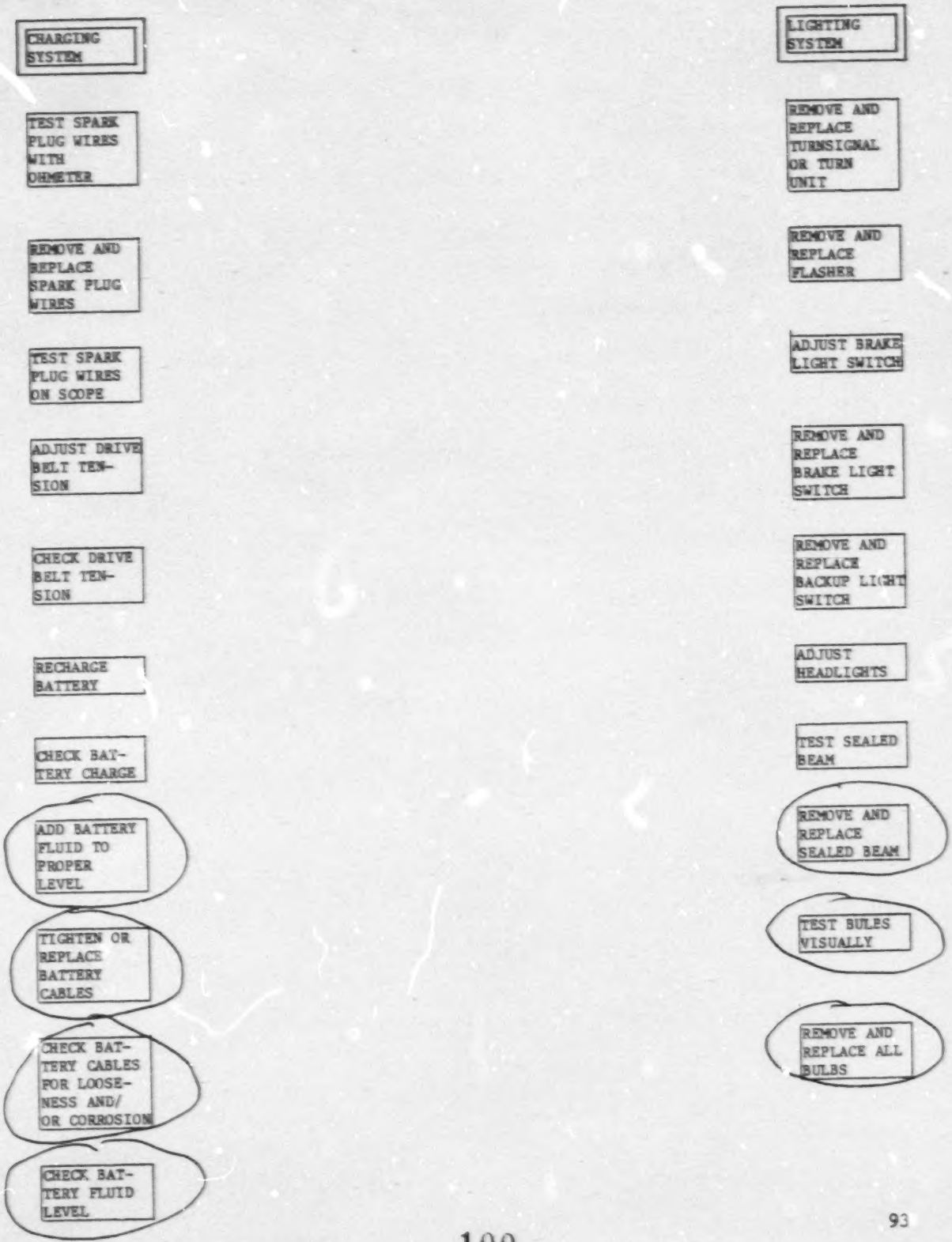
TABLE II

CHASSIS MODULES FOR LEVELS I & II

ALIGNING, JACKING & TOWING	WHEELS AND TIRES	BRAKES	STEERING	SUSPENSION	AXLE & DRIVE SHAFT	TRANSMISSIONS
OPERATE TOWING SLING	ADJUST TORSION BARS	ADJUST BRAKES	REMOVE AND REPLACE POWER STEERING CYLINDER	TEST SHOCKS	REMOVE AND REPLACE PINION SEAL	ADJUST SHIFT LEVER
OPERATE RAIL TYPE, FREE WHEELING HOIST	ADJUST CAM IN LOWER ARM	BLEED BRAKE SYSTEM	CHANGE POWER STEERING BELT	REMOVE AND REPLACE SPINDLE AND KNUCKLE ASSEMBLY	REMOVE AND REPLACE PINION SEAL ASSEMBLY	LUBRICATE AUTOMATIC TRANSMISSION KICKDOWN LINKAGE
OPERATE TWIN POST HOIST	ADJUST CAM IN UPPER ARM	ADJUST PARKING BRAKE	CHECK POWER STEERING BELT	REMOVE AND REPLACE BALL JOINT	REMOVE AND REPLACE REAR AXLE ASSEMBLY	CHECK AUTOMATIC TRANSMISSION FLUID LEVEL
OPERATE DRIVE ON TYPE HOIST	ADJUST SHIMS		ADJUST WORM GEAR STEERING GEAR BOX	REMOVE AND REPLACE COIL SPRINGS	REMOVE AND REPLACE CENTER BEARINGS AND SUPPORT	ADD TRANSMISSION FLUID TO PROPER LEVEL
OPERATE FLOOR JACK	BALANCE WHEELS		REMOVE AND REPLACE MANUAL STEERING GEAR BOX	REMOVE AND REPLACE CONTROL ARMS AND BUSHINGS	CLEAN AND REPACK U-JOINT	ADJUST CLUTCH
	CLEAN, INSPECT AND REPACK BEARINGS		REMOVE AND REPLACE PITMAN ARM	REMOVE AND REPLACE LOWER CONTROL STRUT ROD	REMOVE AND REPLACE U-JOINTS	REMOVE AND REPLACE CLUTCH AND PRESSURE PLATE ASSEMBLY
	REMOVE AND REPLACE BEARING CUPS AND HUB		REMOVE AND REPLACE CONNECTING ARM	REMOVE AND REPLACE TORSION BAR	REMOVE AND REPLACE REAR AXLE	REMOVE AND REPLACE THROW OUT BEARING
	ADJUST FRONT WHEEL BEARINGS		REMOVE AND REPLACE TIE-RODS	ADJUST TORSION BAR HEIGHT	REMOVE AND REPLACE REAR AXLE SEAL	REMOVE AND REPLACE CLUTCH FORK
	CHECK FRONT WHEEL BEARINGS FOR PLAY		REMOVE AND REPLACE TIE-ROD END	REMOVE AND REPLACE STABILIZER BAR AND LINKS	REMOVE AND REPLACE REAR AXLE BEARING	REMOVE AND REPLACE PILOT BEARING
	MOUNT TIRES ON RIMS		REMOVE AND REPLACE IDLER ARM AND BUSHING	REMOVE AND REPLACE REAR COIL SPRING	REPLACE DRIVE SHAFT	REMOVE AND REPLACE FLYWHEEL
	REPAIR TUBELESS TIRES		ADJUST DRAG LINK	REMOVE AND REPLACE REAR LEAF SPRING	REMOVE DRIVE SHAFT	
	REPLACE INNERTUBE			REMOVE AND REPLACE REAR SUSPENSION CONTROL ARM	CHECK U-JOINTS	
	REPAIR INNERTUBE PUNCTURES			REMOVE AND REPLACE REAR SUSPENSION STABILIZER		
	BREAK TIRES			LUBRICATE FRONT SUSPENSION BALL JOINTS		
	CROSS SWITCH WHEELS AND TIRES			REMOVE AND REPLACE FRONT SHOCKS		
	CHECK TIRES FOR UNUSUAL WEAR			REMOVE AND REPLACE REAR SHOCKS		
	FILL TIRES TO PROPER AIR PRESSURE					
	CHECK TIRE AIR PRESSURE					

TABLE 13

ELECTRICAL MODULES FOR LEVELS I & II


CHARGING SYSTEM
TEST SPARK PLUG WIRES WITH OHMETER
REMOVE AND REPLACE SPARK PLUG WIRES
TEST SPARK PLUG WIRES ON SCOPE
ADJUST DRIVE BELT TEN-SION
CHECK DRIVE BELT TEN-SION
RECHARGE BATTERY
CHECK BAT-TERY CHARGE
ADD BATTERY FLUID TO PROPER LEVEL
TIGHTEN OR REPLACE BATTERY CABLES
CHECK BAT-TERY CABLES FOR LOOSE-NESS AND/ OR CORROSION
CHECK BAT-TERY FLUID LEVEL
LIGHTING SYSTEM
REMOVE AND REPLACE TURNSIGNAL OR TURN UNIT
REMOVE AND REPLACE FLASHER
ADJUST BRAKE LIGHT SWITCH
REMOVE AND REPLACE BRAKE LIGHT SWITCH
REMOVE AND REPLACE BACKUP LIGHT SWITCH
ADJUST HEADLIGHTS
TEST SEALED BEAM
REMOVE AND REPLACE SEALED BEAM
TEST BULBS VISUALLY
REMOVE AND REPLACE ALL BULBS

As soon as possible, the instructor assigns an experienced student[1] in the program to administer the performance tests for the modules that John feels he can master. Assume for the sake of simplicity that John receives a "GO" (a passing score) on the performance tests for each of the modules he claimed he could master. The instructor, who has a file on all current and former students in his program, sets up a file for John that includes three charts which look like Tables 14 - 16. Notice, that the instructor has used a wide, felt tip pen to blot out those modules which John has mastered and has indicated the dates on which mastery was achieved on each module.

Before continuing with the example of John's progress through the curriculum, assume that John was summarily transferred the following day (not an atypical phenomenon by any means) from Pontiac to Vienna for the remainder of his term. Although John had received no training at Pontiac, his instructor could still certify to a potential employer that John was capable of performing certain very specific automotive tasks. This certification might be a major determinant of whether John secured a job in automechanics upon release. Under the current system at Pontiac, John would simply be out of luck.

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[1] An important aspect of the management of the SAEPP curriculum will be the use, whenever possible, of peer instructors - experienced students who can assist regular instructors in many of the more perfunctory tasks involved in curriculum management.

Assuming that John were not transferred, consider how he might progress through that portion of the curriculum on which he has not yet demonstrated mastery. A number of options are available to him. He may decide to work on one track at a time, demonstrating mastery on all the modules in a track before proceeding to a neighboring track. He may, for the sake of variety, decide to "jump" from track to track, completing only a small portion of one track but just about finishing another. A third option (and perhaps a sensible one, given the shortness of his term and the likelihood of transfer) would be to demonstrate complete mastery in a "specialty" area such as engines rather than "spreading himself thin" across all three systems. Such a strategy might increase his chances of getting a "skilled" job upon release.

The purpose of this example has been to underline certain key aspects and principles of the proposed curriculum:

1) The curriculum takes advantage of the student's prior knowledge and experience.

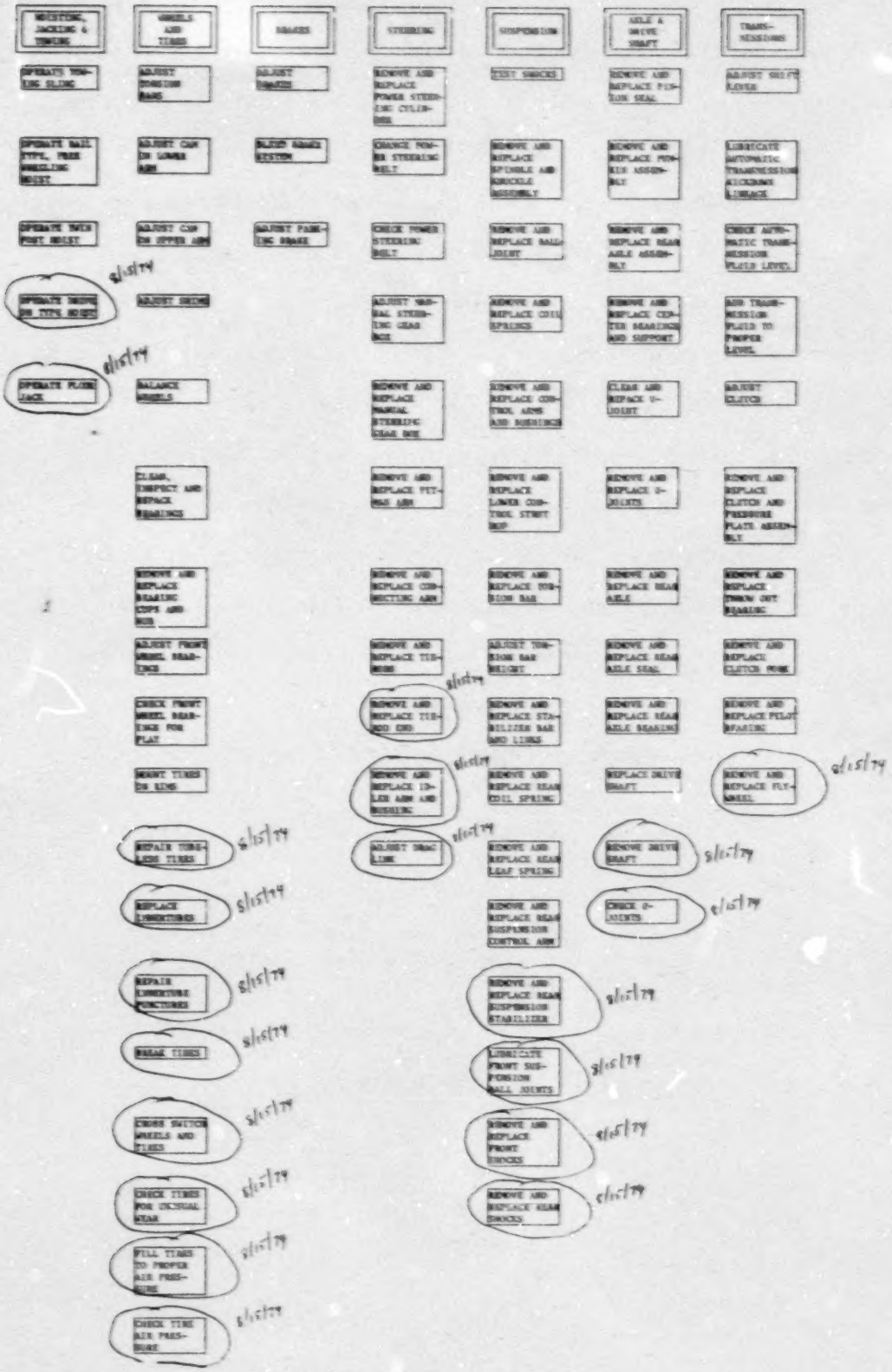
2) Wherever possible, peer instructors are used to free up regular instructors and to lend motivation to new students.

3) The curriculum is completely self-paced. The particular speed and method by which the student progresses through the curriculum is his own.

4) A student's progress through the curriculum is clearly and carefully documented so that he and others know exactly where he stands at any given time.

TABLE 14

CHASSIS WHEELS FOR LEVELS I & II


MOUNTING, JACKING & TOWING
WHEELS AND TIRES
BRAKES
STEERING
SUSPENSION
AXLE & DRIVE SHAFT
TRANS-MISSIONS
OPERATE TOWING SLING
ADJUST DRAWBAR HAND
ADJUST BRAKES
REMOVE AND REPLACE POWER STEERING CYLINDER
TEST SHOCKS
REMOVE AND REPLACE PINION SEAL
ADJUST SHIFT LEVER
OPERATE BALL TYPE, FREE WHEELING HOIST
ADJUST CAM ON LOWER ARM
BLEED BRAKE SYSTEM
CHANGE POWER STEERING BELT
REMOVE AND REPLACE SPINDLE AND KNUCKLE ASSEMBLY
REMOVE AND REPLACE PINION ASSEMBLY
LUBRICATE AUTOMATIC TRANSMISSION KICKDOWN LINKAGE
OPERATE TWIN POST HOIST
ADJUST CAM ON UPPER ARM
ADJUST PARKING BRAKE
CHECK POWER STEERING BELT
REMOVE AND REPLACE BALL JOINT
REMOVE AND REPLACE REAR AXLE ASSEMBLY
CHECK AUTOMATIC TRANSMISSION FLUID LEVEL
OPERATE ENGINE ON TYPE HOIST
ADJUST SHIMS
ADJUST RADIAL STEERING GEAR BOX
REMOVE AND REPLACE COIL SPRINGS
REMOVE AND REPLACE CENTER BEARINGS AND SUPPORT
ADD TRANSMISSION FLUID TO PROPER LEVEL
OPERATE FLOOR JACK
BALANCE WHEELS
REMOVE AND REPLACE MANUAL STEERING GEAR BOX
REMOVE AND REPLACE CONTROL ARMS AND BUSHINGS
CLEAN AND REPACK U-JOINT
ADJUST CLUTCH
CLEAN, INSPECT AND REPACK BEARINGS
REMOVE AND REPLACE PITMAN ARM
REMOVE AND REPLACE LOWER CONTROL STRUT ROD
REMOVE AND REPLACE U-JOINTS
REMOVE AND REPLACE CLUTCH AND PRESSURE PLATE ASSEMBLY
REMOVE AND REPLACE BEARING CUPS AND HUB
REMOVE AND REPLACE CONNECTING ARM
REMOVE AND REPLACE TORSION BAR
REMOVE AND REPLACE REAR AXLE
REMOVE AND REPLACE THROW OUT BEARING
ADJUST FRONT WHEEL BEARINGS
REMOVE AND REPLACE TIE ROD
ADJUST TORSION BAR HEIGHT
REMOVE AND REPLACE REAR AXLE SEAL
REMOVE AND REPLACE CLUTCH FORK
CHECK FRONT WHEEL BEARINGS FOR PLAY
REMOVE AND REPLACE TIE ROD END
REMOVE AND REPLACE STABILIZER BAR AND LINKS
REMOVE AND REPLACE REAR AXLE BEARING
REMOVE AND REPLACE PILOT BEARING
MOUNT TIRES ON RIMS
REMOVE AND REPLACE IDLER ARM AND BUSHING
REMOVE AND REPLACE REAR COIL SPRING
REPLACE DRIVE SHAFT
REMOVE AND REPLACE FLYWHEEL
REPAIR TUBELESS TIRES
ADJUST DRAG LINK
REMOVE AND REPLACE REAR LEAF SPRING
REMOVE DRIVE SHAFT
REPLACE LUBRICATORS
REMOVE AND REPLACE REAR SUSPENSION CONTROL ARM
CHECK U-JOINTS
REPAIR LUBRICATOR PUNCTURES
REMOVE AND REPLACE REAR SUSPENSION STABILIZER
BRAKE TIRES
LUBRICATE FRONT SUSPENSION BALL JOINTS
CROSS SWITCH WHEELS AND TIRES
REMOVE AND REPLACE FRONT SHOCKS
CHECK TIRES FOR UNUSUAL WEAR
REMOVE AND REPLACE REAR SHOCKS
FILL TIRES TO PROPER AIR PRESSURE
CHECK TIRE AIR PRESSURE

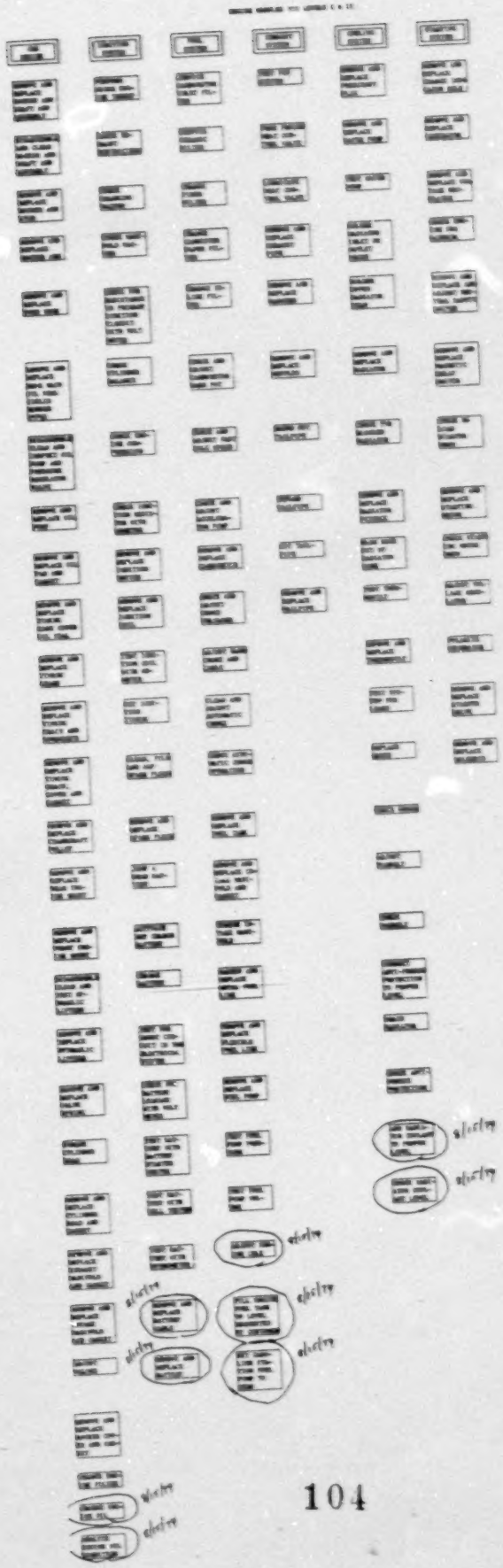


TABLE 16

ELECTRICAL MODULES FOR LEVELS I & II

CHARGING SYSTEM	LIGHTING SYSTEM
TEST SPARK PLUG WIRES WITH OHMETER	REMOVE AND REPLACE TURNSIGNAL OR TURN UNIT
REMOVE AND REPLACE SPARK PLUG WIRES	REMOVE AND REPLACE FLASHER
TEST SPARK PLUG WIRES ON SCOPE	ADJUST BRAKE LIGHT SWITCH
ADJUST DRIVE BELT TEN-SION	REMOVE AND REPLACE BRAKE LIGHT SWITCH
CHECK DRIVE BELT TEN-SION	REMOVE AND REPLACE BACKUP LIGHT SWITCH
RECHARGE BATTERY	ADJUST HEADLIGHTS
CHECK BAT-TERY CHARGE	TEST SEALED BEAM
ADD BATTERY FLUID TO PROPER LEVEL 8/15/74	8/15/74 REMOVE AND REPLACE SEALED BEAM
TIGHTEN OR REPLACE BATTERY CABLES 8/15/74	8/15/74 TEST BULBS VISUALLY
CHECK BAT-TERY CABLES FOR LOOSE-NESS AND/ OR CORROSION 8/15/74	8/15/74 REMOVE AND REPLACE ALL BULBS
CHECK BAT-TERY FLUID LEVEL 8/15/74	

Employability Skills Component

It is a well recognized fact that disadvantaged adults, especially ex-offenders, often fail to obtain and hold jobs because they lack certain kinds of coping skills or "life" skills essential to successful employment. For example, an ex-offender may leave prison as a well trained Automatic Transmission Specialist. However, if he is not prepared to deal with very predictable problems such as how to present himself effectively in a job interview or how to react to the likely suspicion of his new co-workers, he may fail on his new job despite his high level of job skills. The purpose of the Employability Skills component is to provide systematic training in these coping skill areas. As indicated in the schematic, inmates would receive this training concurrently with Automotive Vocational training and Basic Education. For inmates who have little time remaining, of course, only high priority skills would be taught. The proposed method for developing and organizing this component will be described in the following section. The employability skills identified in the client needs assessment described earlier should comprise a major portion of the content covered in this component.

Basic Education Component

As in the employability skills area, it is a well established fact that many ex-offenders have poor reading and arithmetic skills which impair their progress both in training and on the job. It is also well known that there are few effective reading programs for disadvantaged adults; most are either dull or patronizing or both. The purpose of

sub-section is to describe a possible method for determining the reading and math skills required of the curriculum depicted in Tables 8 - 10 and for developing a modular basic education curriculum based on such an analysis.

On the basis of several visits to Pontiac Correctional Center, it is clear that there is little or no coordination between the vocational training which inmates receive and the basic education which they are provided. In fact, most inmates who participate in the automotive training program are not even enrolled in a basic education program because of arbitrary time conflicts. In order to ensure the success of the proposed curriculum at Pontiac, this situation must be drastically altered. The following are a set of steps suggested for the development of a coordinated vocational and reading/math curriculum:

1) Analysis of tools and technical terms associated with each module in Tables 8 - 10. Almost all the reading/math skills required of an auto mechanic have to do with the use of tools and repair manuals. For example, a knowledge of fractions and decimals is essential to using wrenches, rulers, calipers, micrometers, etc. Repair manuals are generally written at elementary reading levels but require an understanding of many technical terms for tools and parts of the automobile. A first step, then, in the development of the reading/math curriculum is an analysis of all the tools and technical terms associated with the modules in Tables 8 - 10.

2) Analysis of the mathematical operations required for use of tools with each module. To make the reading/math component of the curriculum relevant to the vocational component, a detailed analysis will need to be made of the mathematical operations required of all the tools associated with each module. The operations derived from this analysis will form the basis of the math component of the curriculum.

3) Construction of a tools by operations matrix for the mathematical component of the curriculum. As a simple example, assume that the mathematical operations of adding, subtracting, multiplying, and dividing decimals and fractions were found to be associated with rulers, calipers, and micrometers. A matrix like Table 17 could be constructed to show the modules which need to be developed for the math component of the curriculum.

TABLE 17

OPERATIONS	TOOLS: Rulers	Calipers	Micrometers
Add Dec. & Frac.			
Subtract Dec. & Frac.			
Multiply Dec. & Frac.			
Divide Dec. & Frac.			

In other words, 12 instructional modules corresponding to each cell of the matrix would have to be constructed to exhaustively cover the math operations (applied to specific tools) included in the vocational curriculum outlined in Tables 8 - 10. In terms of format, these modules would correspond very closely to the vocational modules. They would include:

a) Precisely stated instructional objectives.

b) A performance test of the student's ability to perform the math operations using a specific tool. For example, if the module were titled "Adding Fractions and Decimals Using Calipers," the student might be required to measure the length of two parts and arrive at their total length, using both a metric scale and a scale of inches.

c) An instructional component (a slide show, a film, or an explanation from an instructor or peer instructor) which explains the basic operation to be performed and how that operation is applied to the particular tool in question.

d) An opportunity for the student to practice the particular mathematical operation before taking the performance test.

Some excellent ideas on the content of the instructional components of these modules can be gained from the following packages published by the Rehabilitation Research Foundation (10):

"Fractions package." November, 1971.
Comprehensive remedial course for adults and youth who can read at the fourth-grade level or above and are deficient in fractions. Includes nine student lessons, one teaching manual.

"Finding square roots." October, 1971.
For those who read at the fourth-grade level or higher and are able to work multiplication and long division problems involving whole numbers, this lesson enables students to find the square roots of whole numbers consisting of up to five digits.

4) Construction of modules for technical terms and principles. Once the terms and principles associated with the modules in Tables 8 - 10 have been listed, modules similar in format to the vocational and math moduels can be constructed. For example, if one of the terms or principles were "torque," a module could be constructed which would explain the concept as applied to the tightness of lugs, gaskets, etc. and which would require the student to demonstrate understanding of the principle by (a) explaining the consequences of improper torque and (b) applying the proper torque to lug nuts, gaskets, etc.

Interface of Basic Education and Vocational Components

Once the modules for the basic education and vocational components are developed, the way in which these components are coordinated with one another becomes very important.

Although not always the case, most students are reluctant to engage in reading and math instruction unless they can see direct its relevance to vocational skills. Given this inclination, the most effective strategy for coordinating the two curricula may be on an "as needed" basis. For example, assume that a student has begun the vocational curriculum outlined in Tables 8 - 10. The rule of thumb, using the "as needed" approach, would be to expose the student to the reading or math curriculum only after he had demonstrated some reading or math deficiency in a vocational module such as misunderstanding of the principle of air pressure or being unable to use a micrometer because he doesn't understand decimals. At this point the student would be asked to take the relevant reading and/or math module. He would be told that he could return to the vocational module he was working on as soon as he had demonstrated mastery of the principle or operation in question.

Whether the above approach or one similar to it is used, the most important consideration in coordinating the two curricula is that they supplement one another, that they foster growth in one another. What is paramount is that the vocational and the reading/math curricula at Pontiac no longer be allowed to operate as separate "fiefdoms" which force students to choose between one or the other.

Placement

Certainly one of the most important, but often neglected, components of any training program is the placement function. Far too often a program (especially one designed for the disadvantaged) will produce highly skilled graduates who must rely totally on their own resources to obtain scarce or non-existent jobs. In the following section, the roles of the prison instructional staffs and the ATC will be briefly described as they relate to the placement of ex-offenders in high demand automotive jobs or in further automotive training in the greater Chicago area.

METHODS AND FUNCTIONS OF THE ATC AND PRISON INSTRUCTIONAL STAFFS VIS-À-VIS THE SAEPP TRAINING MODEL

Although the functions of the ATC and the prison instructional staffs are closely related, they will be listed separately since no clear, simple way of schematicizing these relationships could be found.

ATC Functions

1) Identification of new job areas within the automotive field. HumRRO has conducted a market analysis survey of automotive jobs in the Chicago area which can serve as a model for this function.

2) Identification and specification of tasks and task standards for new job areas. HumRRO has conducted an initial task analysis for each of the four jobs in the schematic. This analysis can be used as a guide for task analyses performed by ATC sub-committees in charge of this function.

3) Identification of employability problems of recently released ex-offenders in new job areas. HumRRO has conducted a questionnaire survey of employers and counselors of ex-offenders in the Chicago area to determine the most critical kinds of coping skill problems offenders confront when they are released from prison and obtain employment. The methods used in this survey should be very appropriate to the performance of this function.

4) Identification of privately or publicly sponsored training programs available to ex-offenders upon release from prison. Many trainees will exit from the prison training programs qualified to work only at relatively low level jobs but will have demonstrated an interest in and an aptitude for acquiring more advanced training. The ATC could perform a very useful function by locating cooperative programs which would be willing to admit promising ex-offenders as regular trainees.

A closely related function would be the identification of the kinds and levels of reading and mathematical skills required of trainees entering such programs. The identification of these skills would help in both the selection and training of ex-offenders suited for such programs while they are still in prison.

5) Coordination of the placement of recently released ex-offenders in high demand jobs and/or in advanced training programs. Clearly, this is one of the most important functions the ATC can perform since it will be in the ideal position of knowing (a) what jobs are most available; (b) the kinds of skills required to perform these jobs; and, (c) the specific skills which graduates of the prison training programs possess.

6) Establishment of orientation programs for newly hired ex-offenders, their employers, and co-workers. Certainly the expectations of the ex-offender, his employer, and his new co-workers are crucial to the success of the ex-offender on his new job. Through a careful orientation program in which each of these three parties has a chance to discuss and anticipate problems which may arise, the chances of successful employment for the ex-offender are bound to increase.

7) Quality control of prison training programs. Since almost nothing remains constant for very long, it will be most important for the ATC to periodically monitor the quality of training which ex-offenders are receiving in the prisons. The ATC will want to insure that current graduates of these programs are able to perform the tasks specified for the original programs. In addition, it will be necessary for the ATC to provide feedback to the prison instructional staffs on new tasks which mechanics should be able to perform as a function of recent changes in the design and equipment of new automobiles.

Prison Instructional Staff Functions

Before listing functions for the prison instructional staffs, it is important to stress that a close interaction between these staffs and the members of the ATC is essential to the successful development and maintenance of the SAEPP Training Model. If both groups communicate openly and frequently, the whole nature of prison training can eventually be improved. If no communication occurs, things are likely to stay pretty much as they are now.

1) Development of the Vocational Training Component of the Curriculum. As mentioned earlier in the report, the development of all the modules for the vocational training component of the curriculum would be a large enterprise. Ideally, this development work should be contracted out to an organization which specializes in curriculum development. If this alternative is presently too costly or unfeasible, the work could be done initially by a consortium of instructors in the Illinois Department of Corrections who have had experience in curriculum development.

2) Development of Employability Skills Component. Each of the male, adult Illinois correctional facilities has been staffed with a cadre of very capable vocational counselors trained under the direction of Dr. Robert Carkhuff. These counselors are currently implementing a Career Development program designed to prepare inmates to deal with certain predictable coping skill problems. As soon as feasible and possible, these

counselors should begin developing additional performance based training to prepare inmates to deal with problems identified in the Client Needs Assessment described earlier.

3) Coordination of three training components in SAEPP model. As pointed out earlier, this function is essential to the success of the curriculum. Although there are a number of ways to achieve this interaction, careful scheduling and individual attention to trainees are paramount.

Scheduling, to the greatest possible extent, should be concurrent. In other words, trainees should spend part of each week in vocational training, counseling, and basic education. The value of this approach is that trainees begin to see and take advantage of the natural relationship among the three components, and instructors more clearly see the need to relate their own components to the other two.

Individual attention to trainees, probably by a vocational counselor, is important so that the trainee's individual needs for work in one component or another are recognized and acted upon.

4) Placement. It will be especially important for members of the prison instructional staff to maintain close contact with the ATC in order to help place qualified trainees about to be released. The instructional staff will have a good understanding of the skills, the strengths, and the shortcomings of each trainee. The ATC, on the other hand, should have a good understanding of available job openings and the types of individuals needed to fill them.

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APPENDICES

APPENDIX A

AUTOMOTIVE TRADES COUNCIL MEMBERSHIP

AUTOMOTIVE TRADES COUNCIL MEMBERSHIP

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APPENDIX B

AUTOMOTIVE TRADES: CLIENT NEEDS AND SERVICES ASSESSMENT

(INMATES)

(EMPLOYMENT COUNSELORS)

(EMPLOYERS)

AUTOMOTIVE TRADES: CLIENT NEEDS ASSESSMENT

INSTRUCTIONS: The purpose of this questionnaire is to determine from you, as a student in an automotive mechanics course, the kinds of things that you feel are important to know or be able to do when you begin to look for a job in the automotive trades upon your release. Please read through the following list and place a check (✓) beside those items which you feel that you should know or be able to do before you look for a job.

Number of Respondents: 8

I need to know:

5 how to look for possible job openings

6 that it is important to arrive for a job interview appropriately dressed and on time

6 how to fill out job application forms

6 how to talk about my prison experience

6 how to talk about my previous work experience

5 how to talk about my own strenghts and weaknesses

5 how to find suitable housing accommodations

6 how to obtain public financial assistance

6 how to budget money

5 how to find out about and use available health services

8 how to locate available training programs which will increase my value to my employer

I must be able to:

7 read technical manuals related to the automotive trades

7 perform basic arithmetic computations necessary in the automotive trades

7 read diagrams and charts related to the automotive trades

7 read gages and scales related to the automotive trades

6 communicate in writing

7 accept criticism from supervisors and co-workers

6 avoid physical and verbal disputes with supervisors and co-workers

4 understand housing rental and lease agreements

AUTOMOTIVE TRADES: CLIENT NEEDS ASSESSMENT

(EMPLOYMENT COUNSELORS)

1. Name of Organization: _____

2. Your Position: _____
(Please describe position)

3. How long have you worked in your present position? _____ months.

4. Estimate the average number of individual ex-offenders with whom you deal each month: _____

5. INSTRUCTIONS: The following is a list of problems which may confront the ex-offender as he attempts to get and hold a job in the automotive trades upon his release from prison. Please read through this list of problems carefully and, based on your experiences as a counselor to ex-offenders, check (✓) those problems which have arisen for the ex-offender during counseling sessions and while on the job. After you have checked these problems, circle the ones which you consider to be the most serious and which usually lead to termination of employment for the ex-offender.

Number of Respondents: 11

Have ex-offenders whom you have counseled:

*

5/1 had problems locating available housing

4/ had problems determining suitable housing for their particular needs

8/1 had problems paying for housing

1/ had problems understanding rental and lease agreements

3/ had problems dealing with discrimination on the part of landlords and rental agents

1/ had problems getting necessary repairs made in housing

5/4 had problems determining how to get from home to work by public transportation or other forms of transportation

6 had problems getting a driver's license

*The figure above the line is the number of respondents who indicated that the problem has arisen for the ex-offender during counseling sessions or while on the job. The figure below the line is the number of respondents who indicated that the problem is serious and, if not corrected, usually leads to termination of employment.

8/1 had problems buying a car

9/1 had problems getting credit

6/1 had problems locating important community resources such as the YMCA, Red Cross, libraries, adult education programs, etc.

9/1 had problems obtaining public financial assistance

6/1 had trouble buying clothes and other essential items

6/2 had trouble budgeting money

2/2 had trouble managing leisure time such as choosing kinds of activities to engage in, when to engage in them, etc.

3/1 had problems re-establishing relationships with members of the opposite sex

6/ had problems making new friends, either male or female

1/ had problems re-establishing male acquaintances and friendships

5/1 had problems finding out about and using available health services

4/3 had problems re-establishing relationships with family

2/4 had problems communicating with persons who are in a position to help them

8/2 had problems being aware of the need for training programs

6/3 had problems planning for the future or understanding the need for planning for the future

6/1 had problems understanding the role of business and industry in society and the role of an individual in a particular organization

4/4 had problems with re-exposure to drugs and/or alcohol upon release

7/2 had problems dealing with the police and/or other legal authorities

4/2 had problems locating legal services

7/2 had problems avoiding situations which would lead to commission of crimes or other offenses likely to lead to return to prison

Have ex-offenders whom you have counseled been confronted with any of the following problems when searching for a job in the automotive trades:

9/ had trouble finding out about possible job openings

9/1 arrived for job interviews inappropriately dressed

7/1 arrived late for job interviews

8/1 had trouble filling out application forms

6 had trouble discussing their prison experience

8/2 had trouble describing previous work experience

10/1 had trouble describing their strengths and weaknesses

9/1 been qualified for a job but not owned the proper tools

6/1 had trouble being hired because of a union shop or other union impediments

7/2 sought a job for which they were clearly unqualified

Have ex-offenders whom you have counseled been confronted with any of the following problems while working in the automotive trades:

4/1 been unable to read technical manuals

5/1 been unable to perform basic arithmetic computations necessary for the job for which they were hired

6/1 been unable to read diagrams and charts necessary for the job for which they were hired

5/1 been unable to read gages and scales necessary for the job for which they were hired

6/ been unable to communicate in writing

3/2 been habitually tardy for work

3/3 been habitually absent from work

5/2 failed to call in when they would be tardy or absent

4/3 left work frequently to take care of personal business

5/ caused other employees to do extra work because of tardiness or absence

6/ held up the work of other employees because of tardiness or absence

3/2 had problems with following instructions from supervisors

6/3 had problems with accepting criticism from supervisors

5/1 been discriminated against by supervisors because of their race and/or prison record

1/ physically fought with supervisors

4/2 been surly or disrespectful to supervisors

4/1 had difficulty communicating with supervisors because of language or "jargon differences"

1/ stolen personal property from supervisors or other employees

2/ gotten into frequent arguments with fellow workers

1/ physically fought with or assaulted fellow workers

3/1 been verbally or physically abused by fellow workers because of race or prison record

5/ had trouble socializing with fellow workers at coffee breaks, lunch, etc.

2/1 had problems working as a member of a team on particular jobs

6/ had trouble accepting criticism from fellow workers

3/ been surly or disrespectful to fellow workers

2/ had difficulty communicating with fellow workers because of language or "jargon" differences

1/ had trouble understanding customer requests

1/ cheated or stolen from customers

2/ used profanity when talking to customers

1/ physically fought with or assaulted customers

1/ frequently gotten into heated arguments with customers

4/1 had trouble accepting a position below that for which they were qualified as a result of training received in prison

6. Please list below any additional problems which have confronted ex-offenders whom you have counseled.

Some do not understand the importance of being on time every day nor the importance of calling in ahead of time when they do not go to work at all.

Some do not show the interest or enthusiasm needed to show the "boss" they are concerned about the business -- they do the minimum -- "it's just a job to get money."

I think one of the big problems is the fear of rejection which many ex-offenders have. This shows itself in their failure to show up for appointments, in aggressive behavior, in flamboyant dress, etc. I think those who deal with ex-offenders have to develop the ability to handle these symptoms of the fear of rejection without they themselves becoming defensive. If they are able to handle them, they can help the ex-offender to work through his fear of rejection and thus not have to resort to defense mechanisms.

Experienced difficulty in breaking through defensive barriers and hostility, in order to establish good rapport.

A number of clients play the "numbers" game and will work with many agencies simultaneously in order to manipulate and exploit. They also use the same tactics among staff within the same agency. Net result -- the least worthy client gets the most material benefit and services.

Clients often don't know what is and is important to the employee in term of enhancing himself as an employee.

7. Describe below the method(s) which you and/or your organization use to alleviate any of the problems which confront the ex-offender:

AUTOMOTIVE TRADES: SERVICE ASSESSMENT	
PROBLEM (State the Problem)	METHOD (Describe the Method Used to Alleviate the Problem)
Job interview, poor work habits, work relationships	Group counseling, role playing, job coaching
Transportation problems	Visual aides — maps, schedules, diagrams, traveling to job with client
Confusion with goals, needs, roles	Establishing a priority of needs in counseling
Alcohol and drug re-exposure	Insist on program involvement as a condition of job counseling and placement
Discerning "genuine" job skills of client	Developing vocational expertise among staff in many areas
Poor accessibility to community resources	Provide telephone numbers and names of key persons to seek out — not just agency names. Appropriate use of citizen volunteers and follow-up workers to assist with above problem areas
Lack skills for job	Tutoring in math, reading, etc
Fear of rejection	Try to greet them in a warm and friendly way and accepting way and establish an accepting relationship with them
Inability to find the place where they are to go for a job	Try to explain every detail carefully and be sure they understand just where they are supposed to go, whom they should talk to, etc. It's a good idea not to take anything for granted but be sure they understand everything clearly.

AUTOMOTIVE TRADES: SERVICE ASSESSMENT	
PROBLEM (State the Problem)	METHOD (Describe the Method Used to Alleviate the Problem)
Lack of interest or enthusiasm for the job	Try to impress on him that he is important to the company in the position he is in
Housing problems of any sort	Patiently explaining the relationship between tenant and owner and why these problems arise
Planning for the future and training for that goal	Explain how it is necessary to start at bottom and the value of job knowledge. Formal or OJT training the best way to a positive future
Clothing and other essential needs	Making available loan funds thru referrals and where possible agency referrals for clothing
Managing leisure time	Matching with VISTA volunteers and volunteers from the community
Our organization attempts to deal with each ex-offender and any particular problem he or she may have or refer the person to whom they can receive help from. Some of our counselors are very good at dealing with emotional problems and if we have a client with deep emotional disturbances we refer them to the counselors with expertise in that area	We try to prepare clients for job interviews. Many times that takes building up their confidence or going on an interview with them, making sure they know what the job calls for in terms of their work history. Discussing the best way to get to the job via bus, car, etc., how long it takes, how to dress on an interview and to push your strong qualities. As job-developers we have spoken to the employer and the ex-offender does not have to worry about his offense turning off the employer

AUTOMOTIVE TRADES: CLIENT NEEDS ASSESSMENT

(EMPLOYERS)

1. Name of Organization: _____

2. Type of Business: _____

3. Your Position: _____
(Please describe position)

4. Estimate the average number of individual ex-offenders with whom you deal each month: _____

5. INSTRUCTIONS: The following is a list of problems which many confront the ex-offender as he attempts to get and hold a job in the automotive trades upon his release from prison. Please read through this list of problems carefully and, based on your experiences as an employer of ex-offenders, check (✓) those problems which have arisen in your organization. After you have checked these problems, circle the ones which you consider to be the most serious and which usually lead to termination of employment for the ex-offender.

Number of Respondents: 11

Have ex-offenders whom you have considered for employment:

*

2/ had trouble finding out about job openings in your organization

2/ arrived for job interviews inappropriately dressed

3/ arrived late for job interviews

9/ had trouble filling out application forms

5/ had trouble discussing their prison experiences

6/1 had trouble describing any previous work experiences

8/1 had trouble describing their strengths and weaknesses

7 been qualified for a job but not owned the proper tools

*The figure above the line is the number of respondents who indicated that the problem has arisen in their organization for ex-offenders. The figure below the line is the number of respondents who indicated that the problem is serious and, if not corrected, usually leads to termination of employment.

- had trouble being hired because of a union shop or other union impediments

3/2 sought a job in your organization for which they were clearly unqualified

Have ex-offenders whom you have hired:

3/1 been unable to read technical manuals

5/1 been unable to perform basic arithmetic computations necessary for the job for which they were hired

3/2 been unable to read diagrams and charts necessary for the job for which they were hired

4/1 been unable to read gages and scales necessary for the job for which they were hired

4/2 been unable to communicate in writing

5/1 been habitually tardy for work

5/1 been habitually absent from work

4/1 failed to call in when they would be tardy or absent

2/2 left work frequently to take care of personal business

3/1 caused other employees to do extra work becuase of tardiness or absence

1/2 held up the work of other employees because of tardiness or absence

4/1 had problems with following instructions from supervisors

7/2 had problems with accepting criticism from supervisors

4/ been discriminated against by supervisors because of their race and/or prison record

- physically fought with supervisors

4/ been surly or disrespectful to supervisors

1/ had difficulty communicating with supervisors because of language or "jargon differences"

1/1 stolen personal proerty from supervisors or other employees

1/1 gotten into frequent arguments with fellow workers

- physically fought with or assaulted fellow workers

3/ been verbally or physically abused by fellow workers because of race or prison record

6/ had trouble socializing with fellow workers at coffee breaks, lunch, etc.

5/ had problems working as a member of a team on particular jobs

8/ had trouble accepting criticism from fellow workers

1/ been surly or disrespectful to fellow workers

1/ had difficulty communicating with fellow workers because of language or "jargon" differences

2/ had trouble understanding customer requests

1/ cheated or stolen from customers

2/ used profanity when talking to customers

- physically fought with or assaulted customers

- frequently gotten into heated arguments with customers

3/ had trouble accepting a position below that for which they were qualified as a result of training received in prison

6. Please list below any additional problems which have confronted ex-offenders whom you have considered for employment or have hired.

Seeking out and associating with a new and better environment of trouble-free friends and places.

Not enough schooling.

Many think they are skilled in their trade because of their prison training. However, some training is on obsolete machines or standards are not high enough; then, they are disappointed because they have to start as trainees.

The ex-offender has a tendency to brag about his experiences, thereby creating a bad feeling with other employees. Straight people feel that they should be treated better because of this.

If an offense is known it creates an uneasiness within the organization.

Ex-offenders have a blown up opinion of their skills. They think that they are more proficient than their training should indicate.

7. Describe below the method(s) which you and/or your organization use to alleviate any of the problems which confront the ex-offender:

AUTOMOTIVE TRADES: SERVICE ASSESSMENT	
PROBLEM (State the Problem)	METHOD (Describe the Method Used to Alleviate the Problem)
Training	Company has training program
Need for tools	Buy tools for them and take a portion of check over several months
Poor attendance	Provide review with foreman and plant manager
Need for more education	Must attend night school in order to keep employment
Undertrained	Point out area in which more training is needed and spend additional time with new employees. Not always practical
Mentioning prison record and/or experiences	Warm employees that this practice could result in his dismissal. Silence is good job insurance
Making transition from incarceration to straight community	All supervisors are advised to treat ex-offenders the same as other employees. Supervisors must try to be more understanding and tolerant, but not condescending or lenient. Treat all odd behavior patterns privately rather than in peer group. Do not expect too much -- ex-offenders cannot do more than anyone else.

APPENDIX C

AUTOMOTIVE TRADES: CLIENT NEEDS AND SERVICES ASSESSMENT

(PRISON OFFICIALS)

AUTOMOTIVE TRADES: CLIENT SERVICES ASSESSMENT

(PRISON OFFICIALS)

1. Name of Institution: _____

2. Position of Respondent :

   3 Vocational Counselor

   2 Vocational Instructor: What do you teach: Auto mechanics; Ornamental horticulture
   Please specify subject(s)

   ___ Vocational Industries Staff

   6 Correctional Counselor

   ___ Parole Officer

   8 Other: Vocational Supervisor (2); Vocational Counseling Coordinator (2); Education Administrator; Technical Related Instructor; Illinois State Employment Service; Assistant Warden
   (Please describe position)

3. How long have you worked in your present position: _____ months.

4. Estimate the average number of individual offenders with whom you deal each day: _____

5. INSTRUCTIONS: The following is a list of kinds of problems which may confront the ex-offender as he attempts to get and hold a job in the automotive trades upon his release from prison. Please read through this list of problems carefully, and based on your experiences working in the prison system, check (✓) those problems which you and/or others in the institution attempt to alleviate prior to the offenders' release. After you have checked these problems, circle the ones which you consider to be the most serious and which, if not corrected, usually lead to termination of employment for the ex-offender.

Number of Respondents: 19

Are attempts made in the prison to train offenders to:

18*/1 look for possible job openings

*The figure above the line is the number of respondents who indicated that the institution attempts to alleviate the problem prior to the offenders' release. The figure below the line is the number of respondents who indicated that the problem is serious and, if not corrected, usually leads to termination of employment.

18/	arrive for job interviews appropriately dressed
18/	arrive for job interviews on time
17/1	fill out job application forms
13/3	describe their prison experience in a positive manner
15	describe their previous work experience in a positive manner
11/3	describe confidently their individual strengths and weaknesses
13/6	seek jobs for which they are qualified
6/4	read technical manuals related to the automotive trades
13/3	perform basic arithmetic computations necessary for employment in the automotive trades
13/3	read diagrams and charts necessary for employment in the automotive trades
7/3	read gages and scales necessary for employment in the automotive trades
14/1	communicate in writing
8/10	arrive on time for work
7/11	understand the need to be present for work
8/8	understand the importance of calling when going to be tardy or absent from work
9/5	understand the effect their being tardy or absent has on their co-workers (extra workloads, holding up work of others, etc.)
6/2	take care of personal business during non-working hours
10/8	follow instructions from supervisors and/or co-workers
6/10	accept criticism from supervisors and/or co-workers
7/5	deal with discrimination because of race and/or prison record
9/4	communicate with supervisors and/or co-workers despite language or "jargon differences"
11/7	avoid physical disputes with supervisors and/or co-workers

10/8 avoid verbal disputes with supervisors and/or co-workers

8/ socialize with fellow workers at coffee breaks, lunches, etc.

8/5 work as a member of a team on particular jobs

7/3 understand requests from customers

8/4 avoid physical and/or verbal disputes with customers

12/5 understand the need to accept occasionally a position below that for which they are qualified

11/3 find suitable housing prior to or upon release from prison

3/ understand rental and lease agreements

3/ deal with discrimination on the part of landlords or rental agents

1/ get necessary repairs made in housing

6/6 determine how to get from home to work by public transportation or other forms of transportation

10/ get a driver's license

2/ buy a car

5/1 obtain credit

12/ locate important community resources such as the YMCA, Red Cross, libraries, adult education programs, etc.

12/ obtain public financial assistance

7/3 buy clothing and other items essential for employment in the automotive trades

3/8 budget their money

3/4 manage their leisure time such as choosing kinds of activities to engage in, when to engage in them, etc.

12/4 re-establish relationships with members of the family

9/2 re-establish relationships with members of the opposite sex

11/ re-establish relationships with members of the same sex

6/ find out about and use available health services

9/7 communicate with persons who are in a position to help them

12/2 locate available training programs which will increase their value to a prospective employer

10/8 plan for the future vocationally, socially, etc.

7/ understand the role of business and industry in society and the role of an individual in a particular organization

8/10 deal with a re-exposure to drugs and/or alcohol

8/6 deal with the police and/or other legal services

5/12 avoid situations which would lead to commission of crimes or other offenses likely to lead to a return to prison

6. Please list below any additional problems which the institution attempts to alleviate prior to the offenders' release.

Lack of vocational skills

Low self-esteem

Transportation for job interviews while still incarcerated

Include incentive pay in training programs to be used as gate money

Secure employment before inmate is released

How to prepare for job interview

How to control job interview

Match inmate deficits with assets in relation to job requirements

7. Describe below the method(s) which you and/or others in the institution use to alleviate any of the problems which confront the ex-offender.

AUTOMOTIVE TRADES: SERVICE ASSESSMENT	
PROBLEM (State the Problem)	METHOD (Describe the Method Used to Alleviate the Problem)
Carreer development: finding one's interest area, job requirements, training requirements, etc., and developing a career route based on where the inmate wants to go	Vocational Counseling Program — Career Development
Interview requirements prior to release	Employment furlough system — if local — transport inmate to job site
Financial assistance for clothing, tools, rent, food, etc.	Aid to first pay — referral to DVR/Dept. of Corrections Pre-release Unit
Development of work habits, including following instructions and accepting criticism	Structure training program as an actual work situation
Deal with discrimination because of race and/or record	Talk through possible situations, problems and solutions
Low self-esteem	Group counseling, vocational counseling, vocational and academic training
Perform basic math skills	Taught in academic school
Communicate in writing	Taught in academic school
Find suitable housing prior to or upon release	Pre-release program
Re-establish relationships with family	Correctional counselor may write or encourage inmate to write
Communications	Class in interpersonal skills
Solving problems	Classes in developing a program involving the problem solving process

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AUTOMOTIVE TRADES: SERVICE ASSESSMENT	
PROBLEM (State the Problem)	METHOD (Describe the Method Used to Alleviate the Problem)
Find job openings and prepare for interviews	Use pre-release community representatives and vocational group sessions
Exposure to drugs and/or alcohol	Individual and group counseling, seminars and therapy; referral to outside programs
Securing employment	Organize previous work experience in an orderly fashion, look at their strong points that make them more "saleable" to an employer, how to present these strong points to an employer, develop a resume based on their strong points, develop a letter of introduction to accompany, use references to develop a list of potential employers and addresses, send letters, practice interviewing skills including dealing with the prison experience

APPENDIX D

TASK LISTS FOR JOBS OF MECHANIC'S HELPER, APPRENTICE MECHANIC, AND AUTOMOTIVE SPECIALIST

SAMPLE KNOWLEDGE OBJECTIVES FOR JOB OF APPRENTICE MECHANIC

Task Lists for Mechanic's Helper/Apprentice Mechanic

I. Chassis

A. Hoisting, Jacking and Towing

Operate floor jack (1)
Operate towing sling (1)
Operate drive on type hoist (1)
Operate twin post hoist (1)
Operate rail type, free wheeling hoist (1)

B. Wheels and Tires

Check tire air pressure (1)
Fill tires to proper air pressure (1)
Check tires for unusual wear (1) 0.2 hrs.
Cross switch wheels and tires (1) 0.5 hrs.
Break tires (1)
Repair innertube punctures (1)
Replace innertubes (1)
Mount tires on rims (1)
} 0.8 hrs.
Repair tubeless tires (1) 0.6 hrs.
Check front wheel bearings for play (1)
Adjust front wheel bearings (1) 0.3 hrs.
Clean, inspect and repack bearings (1)
Remove and replace bearing cups and hub (1)
Balance wheels (2)
Adjust shims (2)
Adjust cam on upper arm (2)
Adjust cam on lower arm (2)
Adjust torsion bars (2)

C. Brakes

Adjust brakes (2) 0.5 hrs.
Bleed brake system (2) 0.6 hrs.
Adjust parking brake (2) 0.4 hrs.

D. Steering

Adjust drag link (2) (No adjustment) 0.9 hrs.
Remove and replace idler arm and bushing (2) 1.0 hrs.
Remove and replace tie-rod end (2) 0.6 hrs.
Remove and replace tie-rods (2) 0.7 hrs.
Remove and replace connecting arm (2) (Steering Arm)
Remove and replace pitman arm (2) 1.0 hrs.
Remove and replace manual steering gear box (2) 2.0 hrs.
Adjust manual steering gear box (2) 0.4 hrs.
Check power steering belt (2) 0.2 hrs.
Change power steering belt (2) 0.4 hrs.
Remove and replace power steering cylinder (2) 1.0 hrs.

E. Suspension

Test shocks (2) 0.2 hrs.
Remove and replace front shocks (2) 0.5 hrs.
Remove and replace rear shocks (1) 0.5 hrs.
Remove and replace spindle and knuckle assembly (2) 2.0 hrs.
Remove and replace ball joint (2) 0.9 hrs.
Remove and replace coil springs (2) 2.5 hrs.
Remove and replace control arms and bushings (2) 2.0 hrs.
Remove and replace lower control strut rod (2) 1.5 hrs.
Remove and replace torsion bar (2) 2.0 hrs.
Adjust torsion bar height (1) (2) 0.4 hrs.
Remove and replace stabilizer bar and links (2) 1.0 hrs.
Remove and replace rear coil spring (2) 1.0 hrs.
Remove and replace rear leaf spring (2) 2.0 hrs.
Remove and replace rear suspension control arm (2) 1.5 hrs.
Remove and replace rear suspension stabilizer (2) 0.9 hrs.
Lubricate front suspension ball joints (1) (2) 0.5 hrs.

F. Axle and Drive Shaft

Remove drive shaft (1) (2) 0.5 hrs.
Check u-joints (1) 0.2 hrs.
Replace drive shaft (1) (2) 0.5 hrs.
Remove and replace u-joints (1) (2) 1.2 hrs.
Remove and replace center bearings and support (3) 2.0 hrs.
Clean and repack u-joint (2) 1.2 hrs.
Remove and replace rear axle (2) 0.8 hrs.
Remove and replace rear axle seal (2) 1.0 hrs.
Remove and replace rear axle bearing (2) 2.0 hrs.
Remove and replace pinion seal (3) 1.5 hrs.
Remove and replace pumkin assembly (3) 2.5 hrs.
Remove and replace axle assembly (3) 4.5 hrs.

G. Clutch and Manual Transmission

Adjust clutch (2) 0.6 hrs.
Remove and replace clutch and pressure plate assembly (2) 4.0 hrs.
Remove and replace throw out bearing (2)
Remove and replace clutch fork (2) 2.0 hrs.
Remove and replace pilot bearing (2) 3.5 hrs.
Remove and replace flywheel (2) 3.2 hrs.

H. Automatic Transmission

Lubricate automatic transmission kickdown linkage (1) 0.2 hrs.
Check automatic transmission fluid level (1) 0.2 hrs.
Add transmission fluid to proper level (1) 0.4 hrs.
Adjust shift lever (2) 0.5 hrs.

II. Engine

A. Gas Engine

Check engine oil level (1) 0.2 hrs.
Add engine oil to proper level (1)
Analyze engine oil condition (1)
Change engine oil (1)
Change engine filter (1) 0.2 hrs.
Remove and replace rocker cover and gasket (1) 0.4 hrs.
Adjust valves (2) 1.0 hrs.
Remove and replace intake manifold and gasket (1) 2.5 hrs.
Remove and replace exhaust manifold and gasket (1) 1.5 hrs.
Remove and replace rocker arm (2) 0.7 hrs.
Remove and replace rocker arm shaft and assembly (1) 1.9 hrs.
Disassemble and clean rocker arm shaft and assembly (1)
Remove and replace rocker arm stud (1) 1.0 hrs.
Remove and replace push rods (1) 0.5 hrs.
Remove and replace cylinder head and gasket (1) 4.0 hrs.
Torque cylinder head (1)
Remove and replace valve spring (1)
Remove and replace hydraulic lifters (1) 4.0 hrs.
Disassemble, clean and test hydraulic lifters (1) 0.3 hrs.
Remove and replace front engine mount (2) 0.6 hrs.
Remove and replace rear engine mount (2) 1.0 hrs.
Remove and replace crankshaft pulley (1) 1.5 hrs.
Remove and replace timing chain, cover and gasket (1) 3.0 hrs.
Remove and replace timing chain and sprockets (1) 3.5 hrs.
Remove and replace timing gears (1) 0.3 hrs.
Remove and replace timing case cover oil seal (1) 0.3 hrs.
Remove and replace oil pan and gasket (1) 1.9 hrs.
Remove and replace oil pump (1) 2.5 hrs.
Disassemble, clean and inspect oil pump and pressure regulator valve (1) 0.2 hrs.
Remove and replace rear main oil seal (solid rubber type) (1) 3.5 hrs.

B. Ignition System

Remove and replace battery (1) 0.5 hrs.
Remove and replace battery cable (1) 0.5 hrs.
Test battery with hydrometer (1) 0.4 hrs.
Test battery with cell tester (1) 0.2 hrs.
Test battery with battery starter tester (1) 0.4 hrs.
Check for battery leakage with volt meter (1)
Test for short circuit in the electrical system (1)
Charge battery (1) 0.5 hrs.
Activate dry charge battery (1) 0.5 hrs.
Jump a dead battery (1)
Remove and replace spark plugs (2) 0.8 hrs.
Clean, file and gap spark plugs (2) 0.1 hrs.
Set ignition timing (2)
Test ignition coil with ohmeter (2) 0.5 hrs.
Remove and replace ignition coil (2) 0.4 hrs.
Remove and replace ignition switch (2)
Check ignition resistor with ohmeter (1)
Check engine compression (2) 1.0 hrs.
Check cylinder balance (2) 1.0 hrs.
Check for resistance in primary ignition circuit with volt meter (2)
Check manifold vacuum (2)
Check cranking vacuum (2)
Check exhaust restriction (2)
Perform minor engine tuneup (2) 2.0 hrs.

C. Fuel System

Set gasoline station fuel pump to zero (1)
Fill engine fuel tank to level requested by customer (1)
Adjust engine idle (2) 0.2 hrs.
Test fuel pump volume (2)
Test fuel pump pressure (2)
Remove and replace fuel pump (2) 0.5 hrs.
Remove and replace flexible fuel line (2) 0.2 hrs.
Makeup and replace metal fuel line (2)
Torque intake manifold (1)
Remove and replace intake manifold and gasket (1) 2.0 hrs.
Remove and replace fuel tank (2) 1.5 hrs.
Check automatic choke operation (2)
Clean and adjust automatic choke (2)
Adjust hand choke and cable (2)
Check and adjust choke unloader (2)
} 0.5 hrs.
Remove and replace carburetor (2) 0.8 hrs.
Check and adjust accelerator pump (2)
Check and adjust fast idle speed (2)
Check and adjust carburetor dash pot (2)

Change inline filter (2) 0.4 hrs.
Change cannister paper filter (2) 0.5 hrs.
Change fiber filter (2) 0.4 hrs.
Service ceramic filter (2) 0.4 hrs.
Service carburetor inlet filter (2) 0.2 hrs.

D. Exhaust System

Lubricate heat control valve (2)
Free frozen heat control valve (2)
Remove and replace tailpipe (2)
Cut tailpipe (2)
Expand tailpipe (2)
Round out tailpipe (2)
Remove and replace muffler (2) 0.5 hrs.
Remove and replace hangers (2)
Remove and replace exhaust pipe (2) 0.5 hrs.
Test PCV system (2)

E. Cooling System

Check radiator coolant level (1) 0.1 hrs.
Add radiator coolant to proper level (1)
Check anti-freeze protection (1) 0.3 hrs.
Drain radiator (1)
Correct anti-freeze protection to proper level (1)
Check fanbelt (1)
Adjust fanbelt (1) 0.3 hrs.
Check hoses (1)
Replace hoses (1) 0.4 hrs.
Test system for leaks (1)
Remove and replace thermostat (2) 0.5 hrs.
Test thermostat (2)
Blow bugs out of radiator core (2)
Remove and replace radiator petcock (2)
Check for blocked radiator (2)
Remove and replace radiator (2)
Solder upper radiator seam (3)
Solder radiator inlet or outlet necks (3)
Test water pump (2)
Remove and replace water pump (2)
Remove and replace freezeout plug (2)

F. Starting System

Check starting motor drum (2)
Remove and replace starting motor (2) 1.0 hrs.
Check no load starter drum (2)
Remove and replace solenoid (1) 1.5 hrs.
Remove and replace magnetic relay switch (2)

Remove and replace and adjust neutral safety switch (3) 0.6 hrs.
Remove and replace starter drive (1) 1.5 hrs.
Check engine for binding (2)
Remove and replace voltage regulator (2) 0.4 hrs.
Remove and replace generator (2)
Polarize generator (1)
Remove and replace charge indicator bulb (2) 0.4 hrs.
Adjust voltage regulator (1) 0.4 hrs.

III. Electrical System

A. Charging System

Test spark plug wires with ohmeter (1)
Test spark plug wires on scope (2) 1.0 hrs.
Remove and replace spark plug wires (2) 0.6 hrs.
Check battery fluid level (1)
Add battery fluid to proper level (1)
Check battery charge (1)
Recharge battery (1)
Check battery cables for looseness and/or corrosion (1)
Tighten or replace battery cables (1) 0.2 hrs.
Check drive belt tension (1)
Adjust drive belt tension (1) 0.2 hrs.

B. Lighting System

Remove and replace all bulbs (1)
Test bulbs visually (1)
Remove and replace backup light switch (1)
Remove and replace brake light switch (2)
Adjust brake light switch (2)
Remove and replace flasher (2) 0.3 hrs.
Remove and replace turnsignal or turn unit (2) 1.0 hrs.
Remove and replace sealed beam (1) 0.4 hrs.
Test sealed beam (1)
Adjust headlights (1) 0.4 hrs.

AIR CONDITIONING / HEATING / RADIATOR SPECIALIST

Inspect air conditioning system (2)
Refill air conditioning system with freon (2)
Diagnose air conditioning malfunctions (2)
Pressure test air conditioning system (2)
Performance test air conditioning system 1, 2, 3, 4, 5, (2)
Leak test air conditioning system (2)
Repair and replace air conditioning compressor 6, 7 (2)
Repair automatic a/c and heater systems vacuum and electrical circuits (3)
Repair compressor shaft seals (2)
Replace compressor seals (2)
Replace condenser in air conditioning unit (2)
Replace air conditioner fan motor (fan serves both heater and AC) (2)
Replace evaporator in air conditioning unit (2)
Replace dryer in air conditioning unit (2)
Replace expansion valve in air conditioning unit (2)
Replace freon control valve or diaphragm in air conditioning unit (2)
Service air conditioner control cables and switches (2)
Diagnose heating system malfunctions (2)
Inspect thermostat (1)
Replace thermostat (1)
Inspect defroster hose (2)
Replace defroster hose (2)
Replace water heater control units (1)
Remove and replace heater core (3)
Repair heater core (3)
Service heater control components (2)
Service gas heaters (3)
Replace gas heaters (3)
Check coolant freezing point (1)
Check coolant temperature (1)
Check overflow tank and accessories (1)
Chemically clean and flush cooling system (1)
Replace fan (1)
Inspect blowers on air-cooled engines (2)
Repair blower on air-cooled engines (2)
Replace radiator hoses (1)
Replace variable-speed fan (1)
Test and replace coolant pressure caps (1)
Pressure test cooling system (1)
Replace water pump (2)
Repair heater electrical and vacuum circuits (2)
Test and replace heater hoses (1)
Test radiator for leaks (1)
Test radiator for blockage (1)
Replace radiator core (3)
Rod radiator (3)
Remove and replace radiator (1)
Repair or replace fan shroud (1)
Solder radiator tanks and core (3)

ALIGNMENT SPECIALIST

Inspect front end (2)
Align front end (2)
Inspect rear end (2)
Align rear end (Corvette and foreign) (2)
Inspect steering damper (2)
Replace steering damper (2)
Inspect wheel bearings (2)
Inspect front suspension systems (2)
Repair front suspension systems (2)
Rebush king pins or link pins (3)
Repair rear suspension system (3)
Replace front wheel bearings grease seal (1)
Replace shock absorbers and mounting (1)
Replace steering gear box (2)
Replace steering shaft (steering column) (3)
Adjust front riding height (2)
Check frame for alignment (2)

BRAKE SPECIALIST

Free up parking brake cables (1)
Inspect brake air compressors (truck) (3)
Repair brake air compressors (truck) (3)
Inspect brake pads (disc brakes) (2)
Replace brake pads (disc brakes) (2)
Inspect and turn rotor if necessary (disc brakes) (2)
Inspect and turn brake drums (2)
Inspect, and replace self adjustors (2)
Repair self adjustors (2)
Perform operational brake inspections (2)
Recondition backing plates (2)
Repair disc brakes (2)
Repair master cylinder (2)
Replace master cylinder (2)
Repair hydraulic power brake units (2)
Replace hydraulic power brake units (2)
Repair hydraulic lines and fittings (2)
Replace hydraulic lines and fittings (2)
Repair wheel cylinder (2)
Replace brake hoses and lines (2)
Replace brake shoes (2)
Replace hand brake linkage (2)
Manual and pressure bleed brake system (2)
Repair and/or replace safety switch (2)
Adjust parking cable (2)
Diagnose brake (2)

CHASSIS REPAIR SPECIALIST

Analyze electrical control circuit and components for overdrive unit (3)
Repair electrical control circuit and components for overdrive unit (3)
Balance drive shaft (in-car) (3)
Inspect drive shaft (2)
Inspect drive shafts, u-joints, and center bearings (2)
Lubricate speedometer cable, drive gear, and housing (2)
Lubricate universal joints (1)
Perform operational inspections of differentials (2)
Perform operational inspections of drive shafts, u-joints, and center bearings (2)
Repair differentials (3)
Replace differentials (3)
Repair spider gear (3)
Replace spider gear (3)
Repair slip joints or universal joints (2)
Replace slip joints or universal joints (2)
Repair or adjust front-drive axle assemblies (3)
Replace front-drive axle assemblies (3)
Replace pilot bearings (2)
Replace speedometer cable, drive gear, and housing (1)
Replace throw-out bearings (2)
Adjust worm and sector in steering box (2)
Inspect steering spindles (2)
Replace steering spindles (2)
Inspect steering (2)
Lubricate the power steering (1)
Lubricate the steering box and linkage (1)
Rebuild power steering cylinder (2)
Repair manual steering components (3)
Replace manual steering components (3)
Repair power steering components (3)
Replace power steering components (2)
Repair power steering pumps (2)
Replace power steering pumps (2)
Repair tilt and telescoping and collapsible mast jackets (3)
Replace tilt and telescoping and collapsible mast jackets (3)
Replace belts and set tension (1)
Service filter in power steering (2)

ELECTRICAL SPECIALIST

Adjust or repair backup light switches (2)
Replace backup light switches (2)
Analyze engine performance using engine analyzer (2)
Adjust engine performance using engine analyzer (2)
Analyze malfunctions in the cranking system (2)
Evaluate alternator, generator, and regulator output (1)
Inspect secondary circuit leads, plug wires, distributor cap, and rotor (1)
Inspect ignition switch, resistor, wiring, coil, points, and condensor of the primary circuit (2)
Repair ignition switch, resistor, wiring, coil, points, and condensor of the primary circuit (2)
Locate shorts and open circuits in wiring (2)
Repair shorts and open circuits in wiring (2)
Perform operational inspections of electrical systems (2)
Perform operational inspections of lighting systems (1)
Repair charging system regulators (1)
Replace charging system regulators (1)
Repair distributors (2)
Repair generators or alternators (1)
Repair fuse block assembly (2)
Replace fuse block assembly (2)
Repair lighting system components (1)
Replace lighting system components (1)
Repair switches (1)
Replace switches (1)
Repair solenoids (1)
Repair starters (1)
Repair windshield wiper mechanisms or controls (1)
Replace distributors (1)
Adjust distributors (1)
Replace chassis and under hood wiring (2)
Replace alternators (1)
Replace light bulbs (1)
Replace starters (1)
Replace stop-light switch (1)
Replace turn signal switches (2)
Service batteries, cables, and battery boxes (1)
Replace batteries, cables, and battery boxes (1)
Service the generator (1)
Set ignition timing (1)
Modify or correct advance curves on strobe distributors (2)
Test cruise control units (3)
Repair cruise control units (3)
Test dash units (2)
Rewire dash units (3)
Replace dash gauges (3)

ELECTRICAL SPECIALIST (Continued)

Repair power window switches (2)
Replace power window motors (2)
Repair power seat electrical circuit (2)
Repair power seat motor (2)
Replace power seat motor (2)
Replace power seat relays (2)
Repair convertible top motor (2)
Repair convertible top hydraulic system (2)
Replace convertible top switch (2)
Repair radio circuit (2)
Repair hidden headlights switches and motors (electrical) (2)
Repair hazard warning lights system (2)

ENGINE SPECIALIST

Remove engines from vehicles (1)
Repair oil pumps (1)
Replace connecting rods and bearings (1)
Replace crankshaft and bearings (1)
Replace flywheel (1)
Replace flywheel ring gears (2)
Replace gaskets and seals (1)
Replace oil pumps (1)
Replace pan and valve covers (1)
Replace pistons (1)
Replace rings on pistons (1)
Replace valves (1)
Replace valve guides (1) (2)
Replace valve seats (1)
Resurface valve seats (1)
Replace camshaft (1)
Replace camshaft bearings (1)
Adjust carburetor (1)
Analyze for moisture or foreign particle level in fuel system (2)
Clean carburetor (1)
Inspect carburetor air cleaner (1)
Service carburetor air cleaner (1)
Replace carburetor air cleaner (1)
Install carburetors (1)
Perform operational inspections of exhaust emission control system (2)
Perform operational inspections of fuel systems (1)
Service fuel pumps replace (1)
Repair or service carburetors (1)
Repair or service exhaust emission control systems (2)
Clean engines (1)
Clean engine parts and check for condition (1)
Diagnose valve train and head malfunctions (2)
Disassemble engines (1)
Grind valves (1)
Inspect bearing fit (1)
Inspect head for warp (1)
Inspect crankshaft and connecting rod assembly using micrometers and other equipment (1)
Perform cylinder leakage test (2)
Perform operational inspections of positive crankcase ventilation systems (1)
Perform operational inspections of engine lubrication systems (1)

TRANSMISSION SPECIALIST

Adjust floor shift linkage (2)
Adjust linkage from steering column to automatic transmission (2)
Adjust linkage from engine to automatic transmission (2)
Clean and visually inspect transmission (2)
Diagnose modulators (2)
Adjust modulators (2)
Replace modulators (2)
Inspect transmission cooling system (2)
Repair transmission cooling system (2)
Inspect converter (2)
Inspect front pump and components (2)
Repair front pump and components (2)
Install automatic transmission coolers (2)
Make external adjustment of bands on automatic transmissions (2)
Make internal repairs and adjustments on automatic transmissions (2)
Perform operational automatic transmission inspections (2)
Remove automatic transmission (2)
Install automatic transmission (2)
Replace external seals, gaskets, and lines on automatic transmissions (2)
Replace neutral switch (2)
Adjust neutral switch (2)
Service automatic transmission (2)
Service filter and check transmission cooling system (2)
Adjust external shift linkage on manual transmissions (2)
Adjust mechanical type clutch (2)
Inspect shifting (2)
Perform operational manual transmission inspections (2)
Rebuild manual transmission (2)
Replace mechanical type clutch (2)
Replace a manual transmission (2)
Replace manual transmission gaskets and seal (2)
Replace transmission mounts (2)
Inspect exhaust systems (1)

Sample Knowledge Objectives for Apprentice Mechanic

A. For a possible course in engine fundamentals:

- name and describe the purpose of each of the cycles in a two-cycle and four-cycle piston engine
- classify engine types according to cylinder and valve operational systems, fuel and cooling systems, and cyclical design
- describe the design characteristics of the engine block, cylinder head, and oil pan and describe the relationship between each of their functions
- describe the types, functions, and construction of automotive gaskets
- list the parts of the rod, piston, and rings assembly and describe the relationship between each of their functions
- describe the design characteristics of the rod, piston, and rings assembly
- describe the design and functions of precision bearings necessary to engine operation
- describe causes of cylinder wear
- describe the operating functions causing cylinder ridge and the reasons for corrective measures
- describe the uses of common outside micrometers
- describe the function and design of the automotive crank shaft
- describe the causes of wear and corrective machining processes for automotive crankshafts
- describe the function and design of the automotive flywheel
- describe the functions and design characteristics of automotive camshafts, and identify basic types of camshaft drives
- describe the relationship between camshaft drives and the function of timing gears
- describe the purpose and operation of automotive engine valves
- identify common types of internal combustion engine valve operating systems and compare the operating characteristics of each
- describe the construction and function of typical valve train components
- describe the function of valve seats and identify the various types of valve seats
- describe the relationship between correct valve seating and proper engine functioning
- describe the function and operation of automotive engine valve lifters
- list the purposes of valve rotation
- describe the purpose of automotive valve adjustment
- list the four essential functions of the engine lubricating system and why these functions are necessary to engine operation

- describe the function and design of automotive oil pump and pressure relief valves
- describe the typical types of engine oil filtration systems
- describe the relationship between the service ratings of motor oils to their SAE viscosity designations
- describe different oil pressure indicators and how they function

B. For a possible course in <u>automotive electricity</u>:

- define conductors, insulators, and semi-conductors and give examples of each
- define the principle of voltage
- calculate the measure for voltage in a working circuit
- define amperage and compute a measure of amperage using the Ohm's Law Formulas
- define resistance and its effects on a working electrical circuit
- calculate measures of resistance using Ohm's Law
- define wattage
- perform simple calculations of wattage measures
- classify the types and uses of wire and wiring devices used for automotive purposes
- describe the standardized system of wire as classified by gauge
- describe how wire gauge is measured
- describe the different types of soft soldering processes including the types of solder implexes used
- describe the chemical makeup and functions of the automotive storage battery
- describe the construction of a typical automotive storage battery by listing its main components and by describing the relationships among each of these components
- describe the function of storage battery plates
- describe the function of storage battery separaters
- list the safety precautions used when installing, removing, and handling storage batteries
- describe the principles of handling storage batteries
- define the principles of specific gravity and describe the relationship between this principle and the use of the hydrometer in performing measurements
- list the common causes of battery failure
- describe the visual inspection methods for analyzing battery conditions
- describe the light load test for storage batteries
- describe the proper methods of maintaining and cleaning storage batteries
- describe the commonly accepted method of charging storage batteries

C. For a possible course on the fuel system:

- define the function of the fuel system by identifying each major component of the system and by describing the relationships among each of these components
- describe the design and construction of typical automotive fuel tanks
- identify the two common types of fuel gauging systems by describing the components unique to each system
- define the function of the automotive fuel filter
- identify the common types of automotive fuel filters according to their design characteristics
- describe the purpose of automotive fuel pumps
- describe the operation of the two basic types of automotive fuel pumps
- diagnose correct and incorrect fuel pump functioning by comparing test results with indicated operating symptoms
- identify four types of carburetor air cleaners and list the essential services of each
- describe the basic principles of modern automotive carburetors
- describe the major operating functions of the carburetor and identify its basic component units
- list seven circuits of a modern carburetor and describe the functions and simple mechanical operations pertinent to each
- describe the purpose and functions of carburetor float circuit
- describe the operation of the carburetor idle circuit
- describe the operation of the carbutetor low speed circuit
- describe the operation of the carburetor accelerator circuit
- describe the operation of the carburetor power circuit
- describe the operation of the carburetor high speed circuit
- describe two basic types of automatic chokes
- describe the purposes of the exhaust system by describing each of the components of the system and the relationship among each of these components
- describe the service techniques for general exhaust system repairs
- describe the factors responsible for crankcase emissions
- cite the reasons for controlling crankcase emissions
- describe the common crankcase emission control systems
- describe the basic exhaust control systems and cite the major differences among these control systems

D. For a possible course on the cooling system:

- describe the relationship of heat and energy to the internal combustion engine cooling system

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- describe the purposes and basic principles of the engine cooling system
- classify the two basic types of cooling systems by identifying their pertinent components
- identify the areas of inspection and list the basic services to be performed on the cooling system
- list the different types of coolants and describe the characteristics of each
- describe the purpose of the automotive radiator
- identify the three basic design types of automotive radiators and list the structural components of each
- describe the different types of cooling system hoses and their service and failure limitations
- describe the purpose of the radiator pressure cap, its operating principles, and the basic service operations to be performed on it
- describe the purpose and principles of the automotive thermostat
- describe the design characteristics and functioning principles of the typical automotive water pump
- describe the purpose of expansion plugs
- identify the types and sizes of expansion plugs
- describe the proper methods of cleaning automotive cooling systems
- describe the purpose of the temperature indication systems
- describe the basic components of temperature indication systems and the service operations performed on these components
- differentiate between the two most common types of automotive passenger heating systems
- describe the types and applications of drive belts
- describe how drive belts are measured
- recognize the indicators of drive belt failure
- describe the purpose of automotive fans
- describe the design characteristics and application of the most common types of automotive fans